VISIT…



TB OSTEO-MYELITIS :- (specific)

*Aeitiology :-

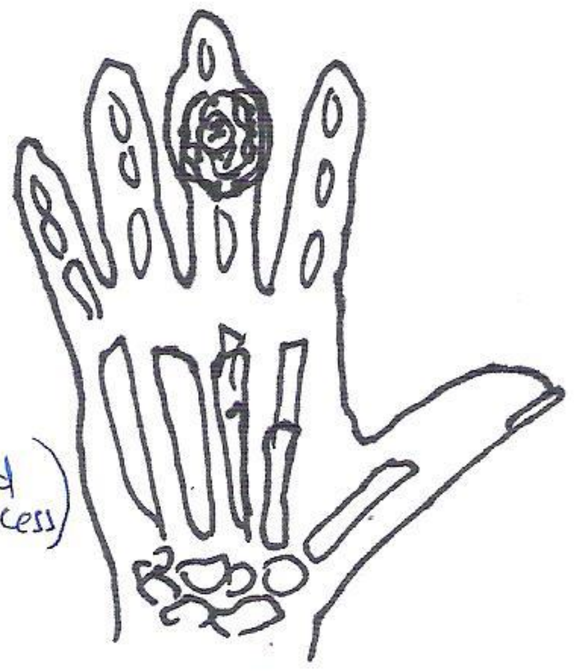
- always secondary to primary focus through blood stream.
- Common in children < 10 yrs, poor classes, underdeveloped country.

*Pathology :-

1. TB ostitis :- (a) TB of vertebra (Pott's disease) → commonest
   (b) Juxta articular TB :- ends of long bones
   (c) TB of hands & feet (TB dactylitis).
2. TB periostitis :- in flat bones → ribs, sternum & skull

TB - DACTYLITIS :-

- diffuse ostitis & mudulla forms TB granulation mass, cortex eroded, periosteom forms new bone ῶ also eroded.
- bone expand & may rupture → TB sinus. (cold abscess)



ttt :- - anti-TB drugs, immobilization of finger
- surgury → cleaning & removal of mass, then close skin.

TB - of ribs :-

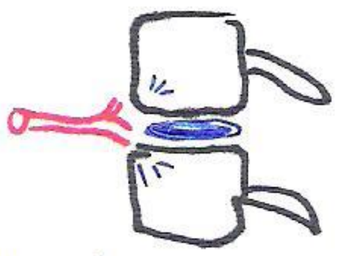
- infection under periosteam, bone eroded gradually.
- Cold abscess formed → rupture → sinus.
- rarely it may rupture inwards → infection of pleura.

ttt :- - Anti-TB drugs, cold abscess aspiration.
- in some cases → rib excision.

TB of spine : (Pott's disease) :-

* Pathology :-

- most commonly affects <u>dorsi-lumbar</u> (thoraco-lumbar) region [next lumbosacral, high thoracic & least common cervical region].
- Infection usually begins at <u>anterior margin</u> of vertebral <u>body</u> (near the I.V. disc).



- the disc ↑ usually involved at early stege, gradually destroyed with partial destruction of the two adjacent vertebrae anteriorly → <u>angular kyphosis</u> or <u>gibbus</u>.
- later infection may spread to other vertebrae.

* Investigations :-

1- Mantoux test +ve, ↑ ESR.

2- X-ray → a)- ↓ intervertebral space (earliest sign.) & local osteoporosis

b)- later → ant. destruction of body + wedging.

c)- abscess shadow may be seen. (fusiform).

* Prognosis :-

- usually good, ~~[illegible]~~ (few cases → severe perminent kyphosis).

* Complications :-

1)- Cold abscess formation.

2) Pott's paraplegia.

* Clinical picture :-

- ill-health, night sweats, fever, back pain.
- may presented by complications as kyphosis, paraplegia, cold abscess., deformity → early by ms spasm causing loss of lordosis of cervical & lumbar & exaggerated kyphosis of thoracic
  → late by vertebral collapse → kyphosis

(1) Cold abscess formation :-

- At first paraspinal, pus can escape along nerve roots

- In cervical region :- - Retropharyngeal space
  - suboccipital triangle
  - Post. triangle of neck.
  - into axilla.

- In thoracic region :- - mediastinum.
  - along intercostal nerve → Paravertebral (post. rami)
    midaxillary (lat. br.)
    parasternal (ant. br.)

- In thoracolumbar region :- along psoas sheath → femoral Δ (psoas abscess)
  (scarpa's Δ)
  - paravertebral
  - gluteal region (along lumbar nerves)

- In lumbosacral region :- - Pelvic abscess. (along sacral nerves)
  - gluteal abscess (great sciatic foramen)
  - popliteal fossa (along sciatic N.)
  - ischiorectal abscess (along inf. rectal vessels)

(2) Pott's Paraplegia

- Paraplegia occuring early in the disease due to either :-
  - Compression of blood vessels → cord oedema.
  - thrombosis of blood vessels.
  - compression of cord by extra-dural abscess.
  - displacement of a sequestrum.

- Paraplegia occuring years after healing due to either :-
  - mechanical impedence of spinal cord. by kyphosis
  - fibrosis around spinal cord.

*Treatment :-

- Anti-TB drugs for long time
- plaster jacket or collar (Minerva plaster)
- drain cold abscess → superf. abscess drain & suture skin
  → paraspinal thoracic → costotransversectomy (remove head & neck of rib / transv. process)
- treat paraplegia → conservative / decompression e.g costo-transversectomy

Humerus Osteomyelitis.





chronic osteomyelitis



necrotizing clostridial infection.



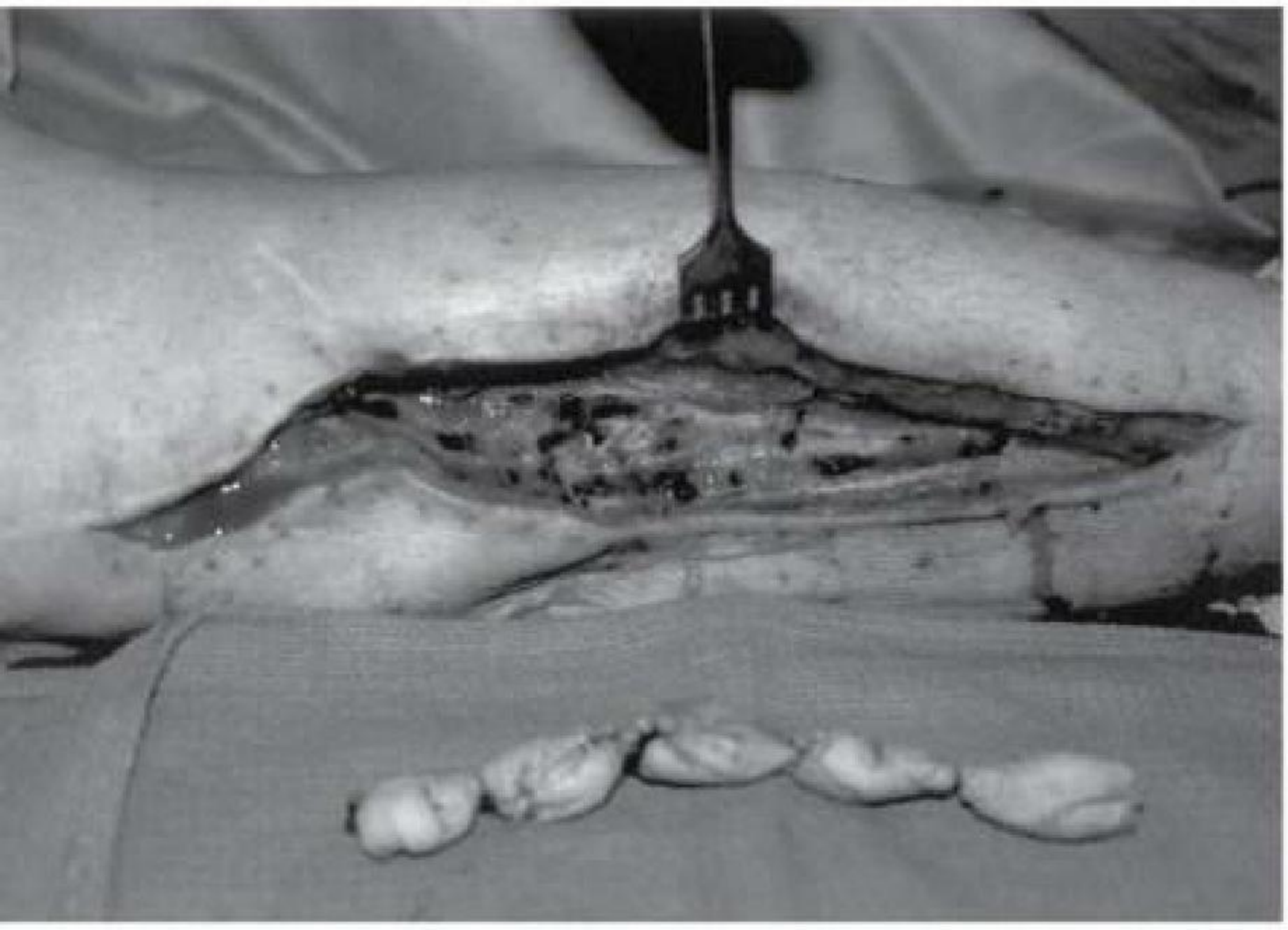
A



B



C



A: Leg with draining sinus tracts.
B: Preoperative radiograph showing fracture fixation plate.
C: Postoperative radiograph showing extent of bony debridement.
D: Second surgical exposure of clean tibia and the antibiotic beads that were removed.

(A) INFECTIVE ARTHRITIS :-

(I) SEPTIC ARTHRITIS :-

*** Incidence :-**

- affect newborn (commonly after aspiration pneumonia) and young children.
- also affect adult (immunocompromized).

*** Aeitiology :-**

- **organism :-** mainly staph. aureus, consider N. Gonorrhoea in sexually active patient.
- **Route :-** 1) hematogenous ← main route sepcially in infant.
  2) following penetrating injury.
  3) iatrogenic e.g aspiration. (metaph. inside joint)
  4) following acute osteomyelitis (rare) as in hip ↖

*** Pathology :-**

- Infection start in synovial memb. → synovitis → thick congested synovial membrane → effusion at first serous then sero-purulent & finally frank pus.
- if pt treated properly before cartilage involved → restore normal joint
- Articular cartilage may destroyed if neglected case, pus may be escaped → superficial abscess.
- then the end result is fibrous or bony ankylosis → secondary osteoarthritis
- the ↑ed pressure inside hip may → ischaemic necrosis of head of femur (HOF).

* Clinical Picture :-

- **General :-** Fever , Anorexia (poor ~~feeding~~ , vomiting), Headache , Malaise , irritable and crying.
- **Local :-** Joint redness , hotness, swelling , tenderness and absolute limitation of movement (in flexion position ⇝ Position of ease)
  - there is Pseudoparalysis (limb not moved due to pain)
- **s/s of complications :-** as septic shock .

(.D/D :. other forms of arthritis & osteomyelitis)

* Investigations :-

- **General :-** CBC (↑WBC mainly neutrophilia) , ↑ESR , blood C/s .
- **Local :-**
  - culture sensitivity (C/s) of aspirated fluid (diagnotic test).
  - X-ray :- (both bilateral joints to compare) ⇝ normal in 1st 2-3 weeks
    - narrow joint space , diffuse rarefaction , dislocation ...etc
  - radio-isotope scan (Tc^{99} or $Galium^{67}$) → hot spot (↑ uptake).
  - U/S show effusion , CT scan , MRI.

* Treatment :-

- **General :-** - good hydration , bed rest & rest of joint (splint or traction)
  - systemic I.V broad spectrum Antibiotic , Analgesia & Antipyeretic
- **Local :-** - aspiration of pus ± intra articular injection of antibiotic (pus may need arthrotomy to be drained). may rebeated aspirat

* Complications :-

1- septicemia & pyemia.

2- osteomyelitis , secondary osteoarthritis & joint destruction.

3- Sublaxation & dislocation .

4- ankylosis , shortening.

(II) TB ARTHRITIS :-

***Incidence :-**

- affects any age (usually children), equal sex., underdeveloped countaries

***Aeitiology :-**

- It is alway secondary to a focus in body (human or bovine TB).
- Infection through blood stream.

*** Pathology :-**

- Can affect any joint, but most often hip & knee.

(1) Osseous type :- [redacted] → infection start in epiphysis (or metaphysis) as in acetabulum or HOF in hip joint.

(2) synovial type :- infection start in synovial membrane → Synovitis → tuberculous granulation tissue of synovial membrane (if treated properly before cartlage involved → may restore normal function of joint)

- articular cartilage gradually destroyed → erosion of bone which gradually rarified & replaced by TB granulation tissue
- Muscles around joint → spasm, wasting.
- Capsule & ligament involved & destroyed → Pathological dislocation
- Cold abscess formed inside joint → under muscle → skin sinus
- Lymphadenopathy of regional LN;
- Finally healing by ankylosis (fibrous or bony)

*** Clinical Picture :-**

- **General :-** low grade fever, night sweating, wt loss.
- **Local :-** intermittent limbing, Pain, swelling

* Investigation:-

- General :- ↑ESR, +ve tuberculin test.
- Local :- -Plain x-ray (soft tissue shadow, ↓ joint space, rarefaction).
  - aspiration of synovial fluid (↑WBC, TB bacteria) ± biobsy of syn. memb or LN
- Look for the primary TB ← chest x-ray (CXR)

* Treatment :-

- General: rest, antiberculus drugs for 1 year.
- Local: traction or splint for months, arthrodesis or arthroplasty.

* Complications :-

1- Cold abscess formation.

2- Sublaxation or dislocation.

3- fibrous or bony dislocation.

(B) NON-INFCTIVE ARTHRITIS :-

- Non-inf. arthritis (1) Sero +ve :- Rh. arthritis, SLE arthritis.
  (2) Sero -ve :- ankylosing spondylitis, Rieter's syndrome, Psoriatic arthritis
  (3) Crystal arthritis :- gout & pseudogout.

(1) sero +ve arthritis :-

SLE ARTHRITIS :-

* features of SLE are:-

- Joint pain, anemia, leukopenia, ↑ESR, +ve antinuclear factor.
- systemic symptoms (wt loss, anorexia, malaise, & fever)
- Rayanaud's phenomenon, perspheral vasculitis, splenomegaly.....

* ttt :- orthopaedic ttt mainly arthroplasty for a vascular necrosis of HOF (head of femur) caused by vasculitis or steroid therapy.

RHEUMATOID ARTHRITIS :- "sero +ve arthritis"

* Incidence :-

- the most common arthritis in Europe, more in middle aged female. (♀ 3 : 1 ♂)
affect 1% of people.

* Aeitiology :-

① caused by cell-mediated (T-cell) → cytokines (IL 1, IL2, TNF) → inflammatory reaction. / ② genetic predisposition

* Pathology :

- articular → synovitis – destruction
- extraart. → Rh nodule, Lymphadenopathy, vasculitis.

(more in PIP)

- often start with symmetrical disease in small joint of hand & foot
- a layer of inflammatory tissue called Pannus tissue. [Pannus = Panniculus = hanging flap of tissue]

Pannus composed of (mesenchyme- and bone marrow-derived cells) →

release of IL 1, PG & others → cartilage destruction & bone erosion.
→ ankylosis

* Investigation :-

- Rh. factor is +ve in 95% of pt [and 1-5% of normal people].
- X-ray ~~> - normal early, soft tissue swelling. ↓ joint space if cartilage destructed. dislocation, deformity.
- U/S, MRI

* Clinical Picture :-

- bilateral.
- Joint swollen, warm, painful & stiff (mainly morning stiffness)
- Extra articular manifestation ~~> subcut. nodule, myocarditis, scleritis, iritis, nephritis, interstitial lung disease, pleural effusion, amyloid lung, kidney, heart & bowel.
- compression & vascular neuritis.

* problems in hand & wrist caused by Rh. arthritis :-

radial deviation of wrist, ulnar deviation of MCP (metacarpo-phalyngeal joint), Z deformity of thumb, Boutonniere deformity of fingers, swan neck deformity and carpal tunnel syndrome.

NB/ ~~anaesth~~

* Treatment :-

- long standing mild cases ⟶ analgesia , NSAID.
- nowadays :⟶ disease modifying anti Rh. drugs "DMARDs"

methotrexate _ Gold _ sulpha salazine _ leftunomide - Penicilline.

Ciclosporin.

- Anti TNF drug ⟶ etanexcept , infleximab
- Corticosteroid therapy continues to be useful.
- Surgical ttt :- synovectomy : for inflammed joint ,

tenosynovectomy for inflamed tendon sheaths , Arthrodesis ,

& Joint replacement .

NB anaesthesiolgist must be care during endotrachial entubation as pt ē Rh arthrit. may have instability of C_1/C_2 spine.

(2)- crystal arthritis.

* Gouty arthritis :-

"the disease of Kings"

"known as Podagra (النقرس) when involve big toe"

- Characterized by recurrent attack of acute inflamm. arthritis.

incidence:- ↑ frequency nowadays , affect 1-2% of Western population./male 40s

aetiology:- uric acid (mono Na-urate) crystals deposition in the joint.[disorder of Purine metabolism]

Pathology:- affect mainly big toe MTP (metatarso-phalyngeal) in 50% of pt.

C/P :- Joint is red, tender , hot , swollen (D/D Bunion of hallux vulgus, septic arthritis)

Dx :- clinical → hyperuricemia (normal level not exclude) , synovial fluid analysis (uric acid) . x-ray useful in the chronic gout (little utility in acute attacks)

ttt:- -- acute stage ⟶ ice , NSAIDs , Colchicine & steroids.

- prevention ⟶ allopurinol , febuxostat & Probenecid.

Complication:- osteoarthritis , renal stones , tophi. (stones in joint , cartilage ..... etc)

NB: Pseudogout :- deposition of Ca^{++} pyrophosphate dihydrate crystals in large joint (Knee) , s/s as osteoarthritis , old pt

- x-ray ⟶ calcified cartilage (chondro calcinosis).

(3)- sero -ve arthritis :-

Ankylosing spondylitis :-

- Incidence :. 10 times as common in men as in women
- aetiology :- unknown, associated ē HLA B27 antigen, +ve family history.
- Pathology :- - ossification of ligaments of spine. (early in the course)
  - large joints may be affected especially sacroiliac Joint
- treatment :- - rest (in acute painful stage), NSAID, hyperextension excercises and wearing a 3 point brace to prevent kyphosis.
  - Joint replacement of hip may indicated, rarely spine osteotomy

Reiter's disease :-

- self limiting arthritis (small joint), autoimmune. more in white > black male 20-40 yr.
- urethritis causing dysurea, conjunctivitis

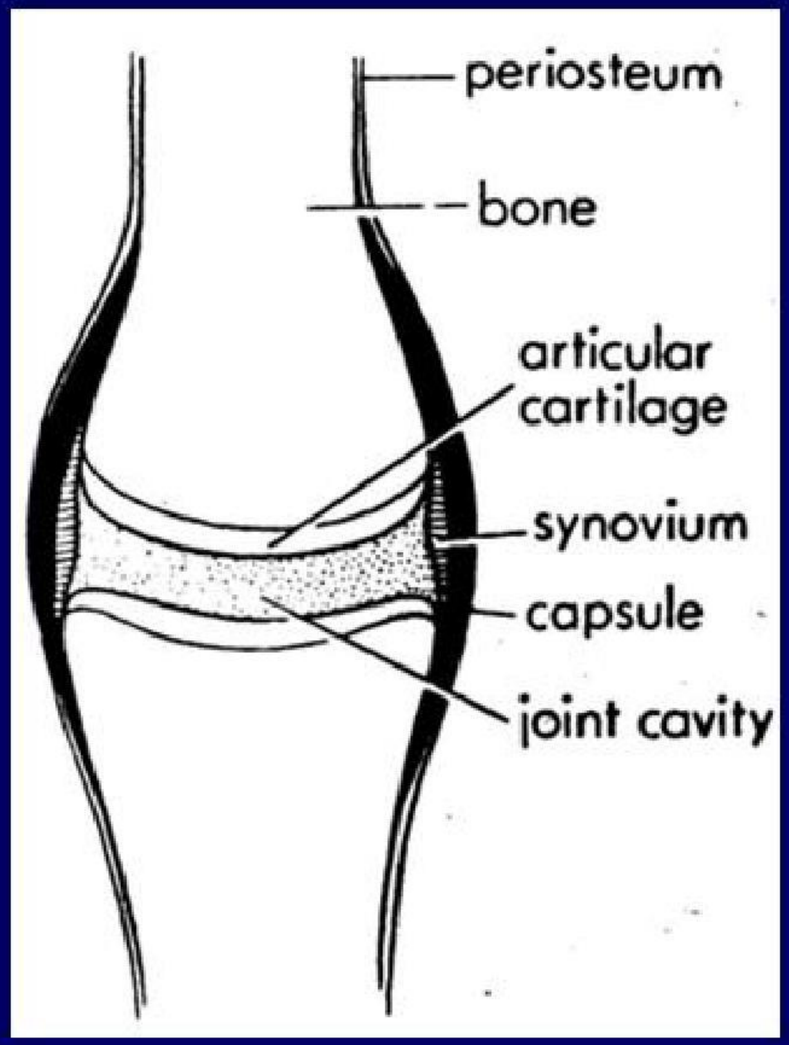
Psoriatic arthritis

- affect small joints of hand & foot (DIP).
- resembles Rh. arthritis but no Rh. nodule, -ve Rh. factor and involves DIP joints.

Charcot Joint :- (Neuropathic arthritis)

- repeated minor trauma to anaesthetic joint ⇝ swelling, deformity & instability (mild or no Pain)
- follows DM, tabes dorsalis, & syringomyelia.
- X-ray ⇝ thining of cortex, osteoporosis, fractures.
- ttt ⇝ conservative (rarely arthrodesis, arthroplasty not recommended)

NB:- haemophilic arthritis ⇝ repeated Hge into a joint. (ē or ę trauma)
male, recurrent hemarthrosis → cartilage damage → Pigmented synovial memb.



Normal joint



Normal articular cortex



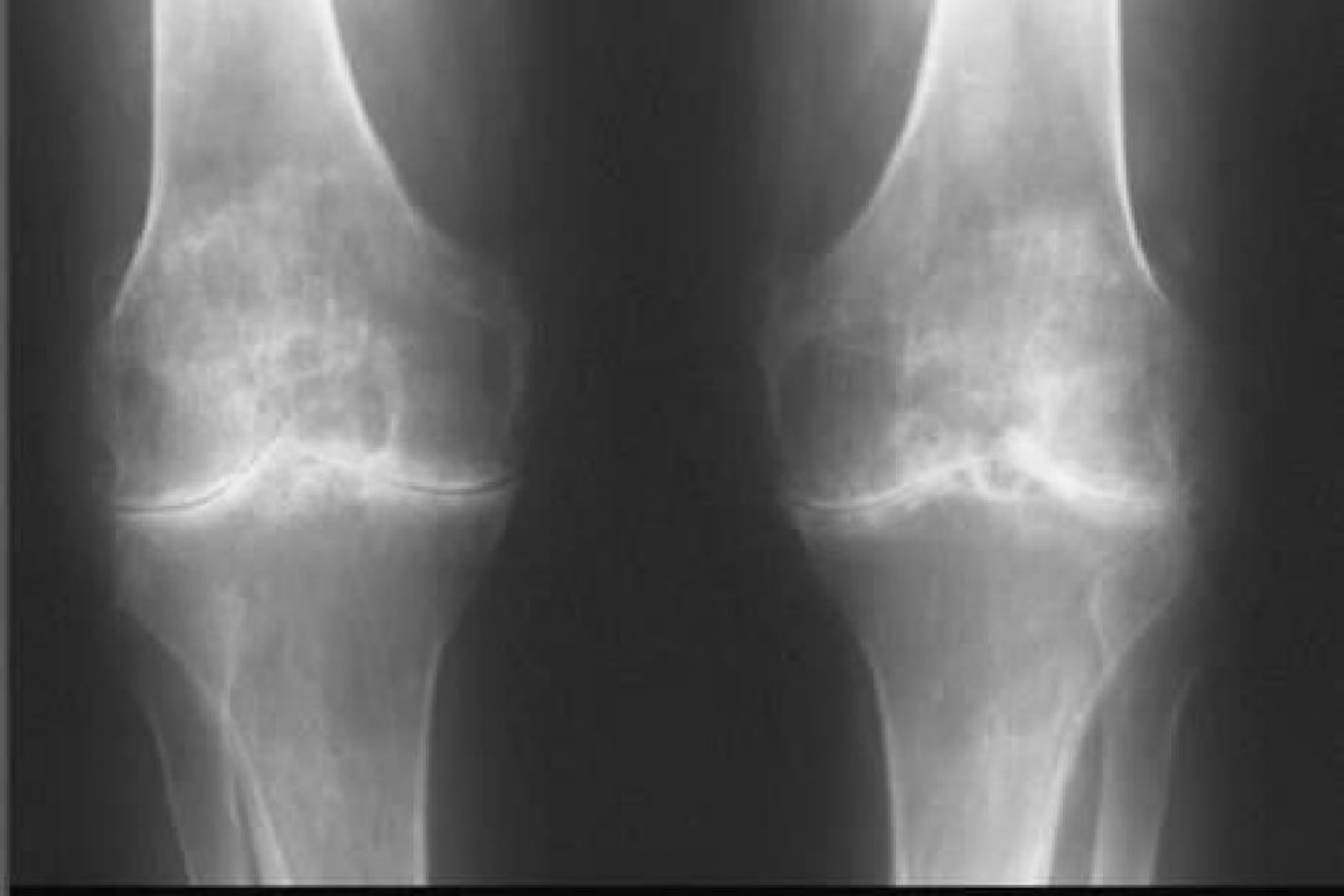
Septic arthritis of toe





TB septic arthritis over 1 year







Drake: Gray's Anatomy for Students, 2nd Edition.

Copyright © 2009 by Churchill Livingstone, an imprint of Elsevier, Inc. All rights reserved.



Drake: Gray's Anatomy for Students, 2nd Edition.

Copyright © 2009 by Churchill Livingstone, an imprint of Elsevier, Inc. All rights reserved.



Drake: Gray's Anatomy for Students, 2nd Edition.

Copyright © 2009 by Churchill Livingstone, an imprint of Elsevier, Inc. All rights reserved.

contents slide

Other Bone Diseases



Obliterated joint spaces of both hips (compare with normal hip joints)

Bilateral hip osteoarthritis



720x520 @ 268.9 kb

Perthe's disease



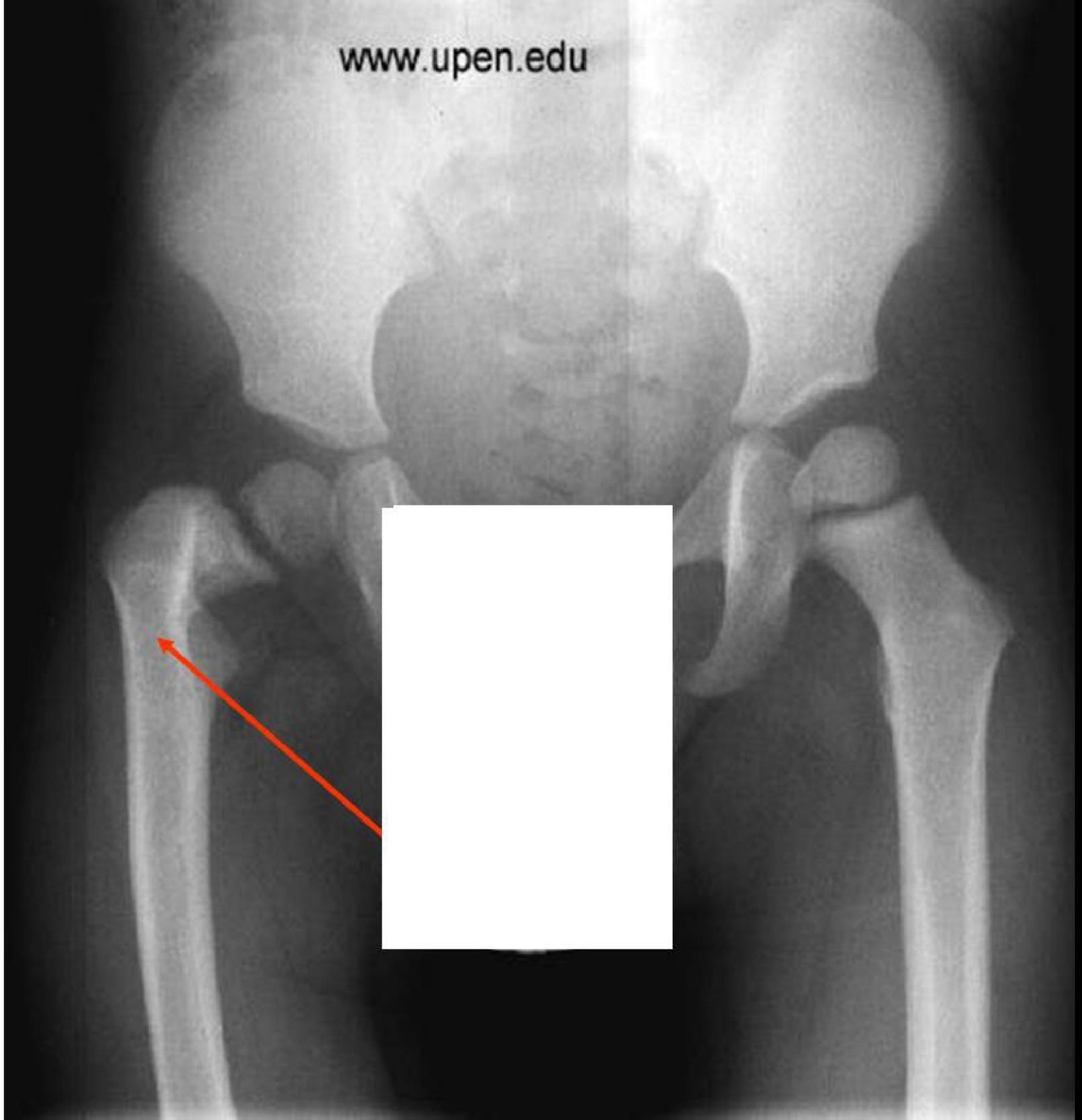

310x188 @ 33.5 kb

Perthe's disease unilateral





Coxa vara



coxa vara

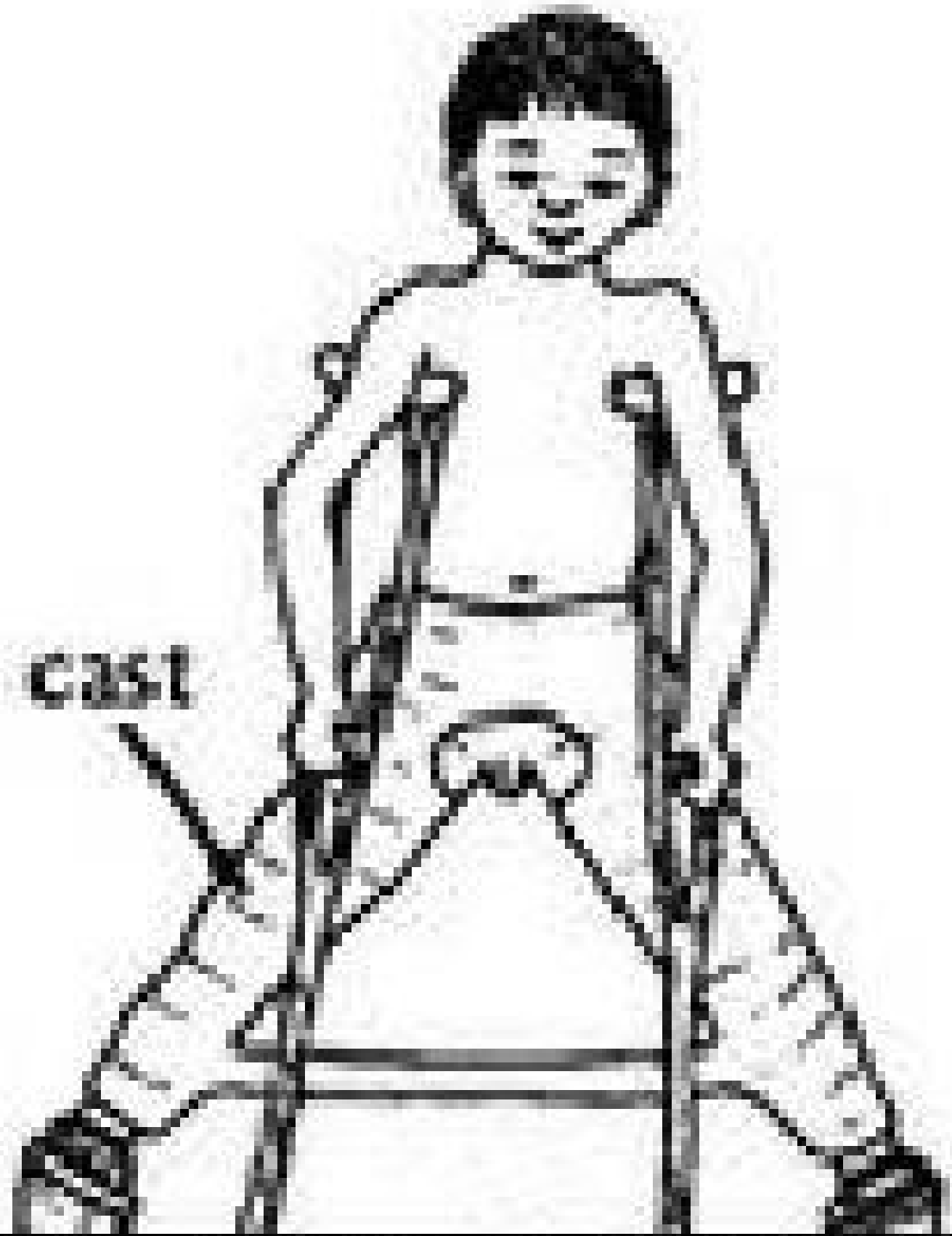




pott's disease

bone grafting

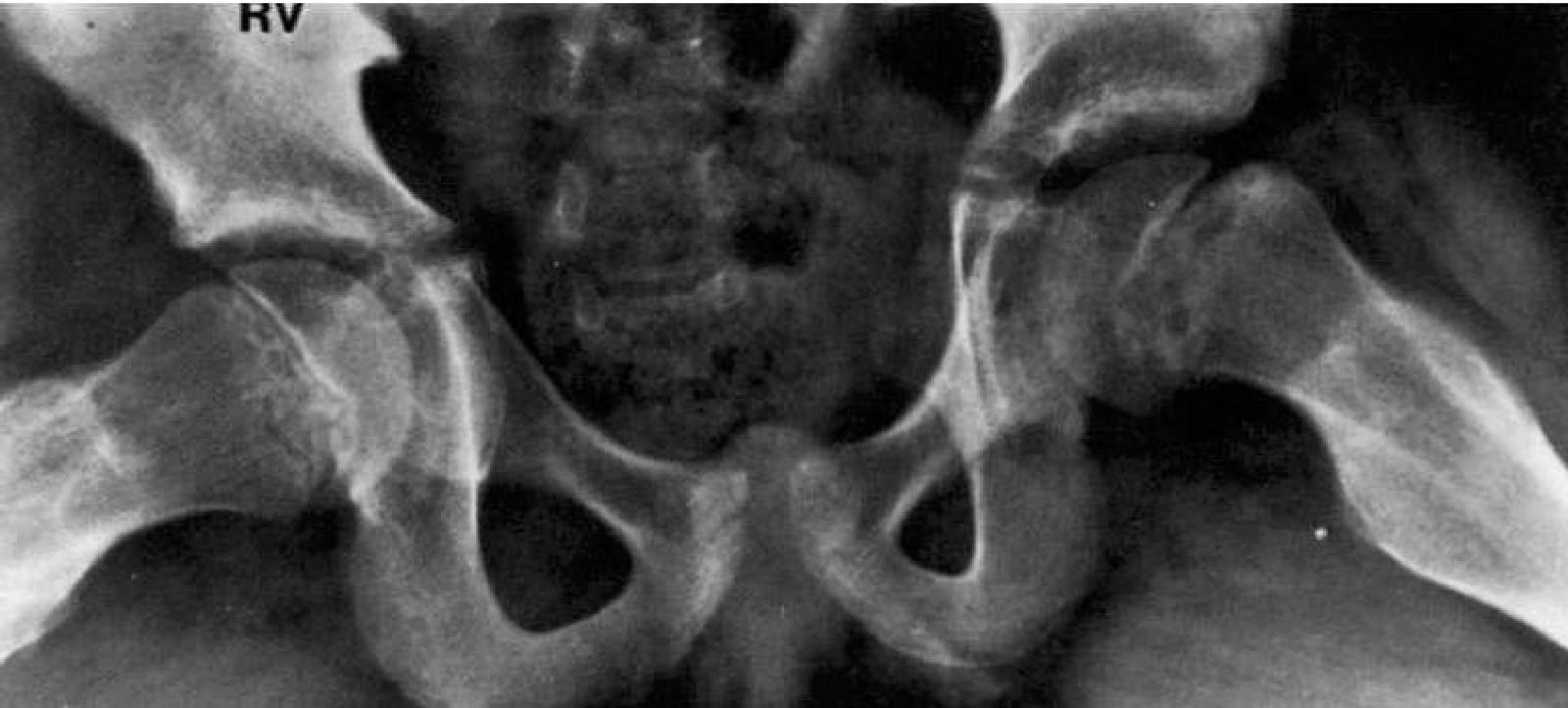




80x26 @ 10.6 k


5x500 @ 13.1

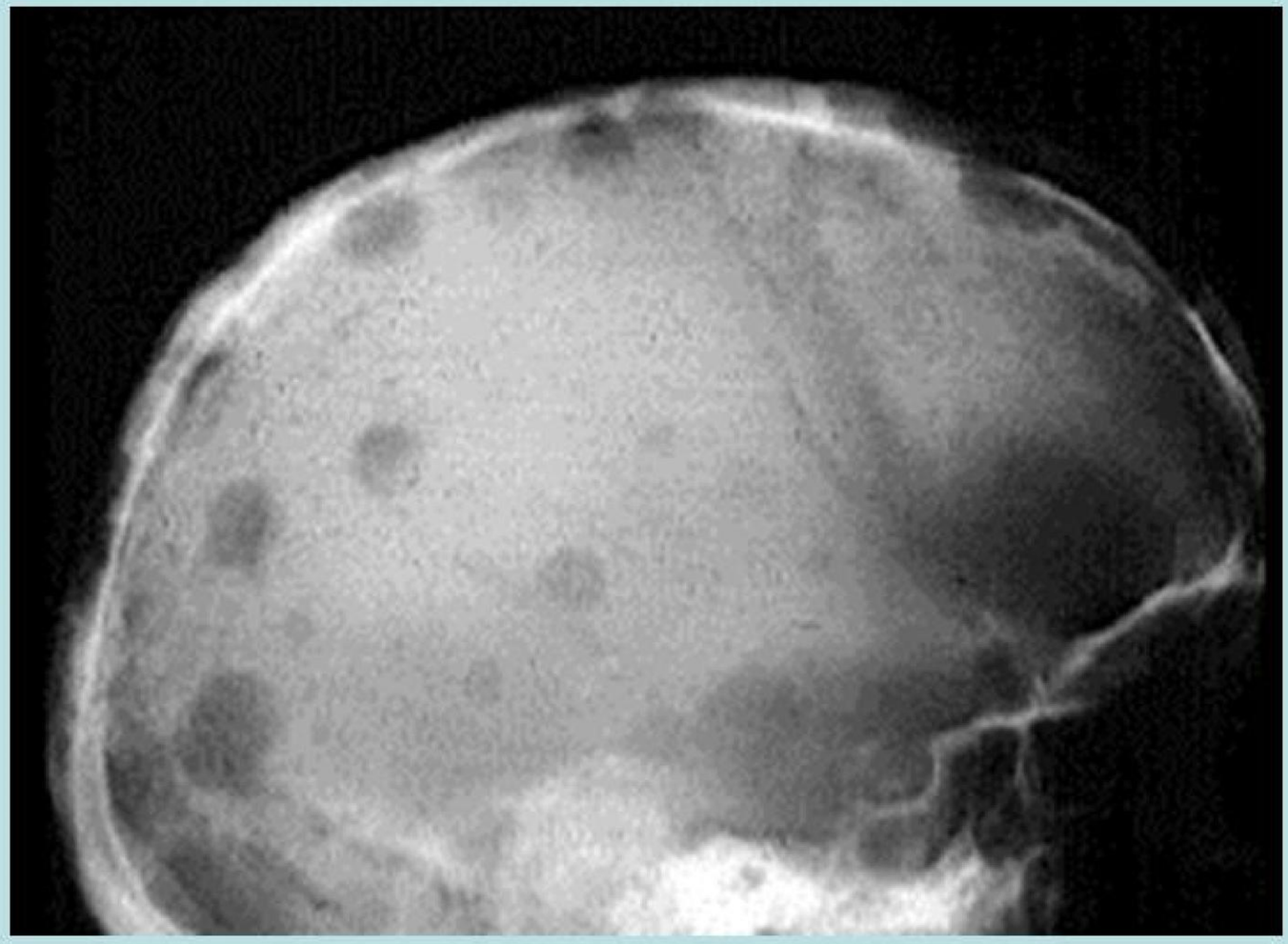

RV


RV

Bone Tumours

contents slide

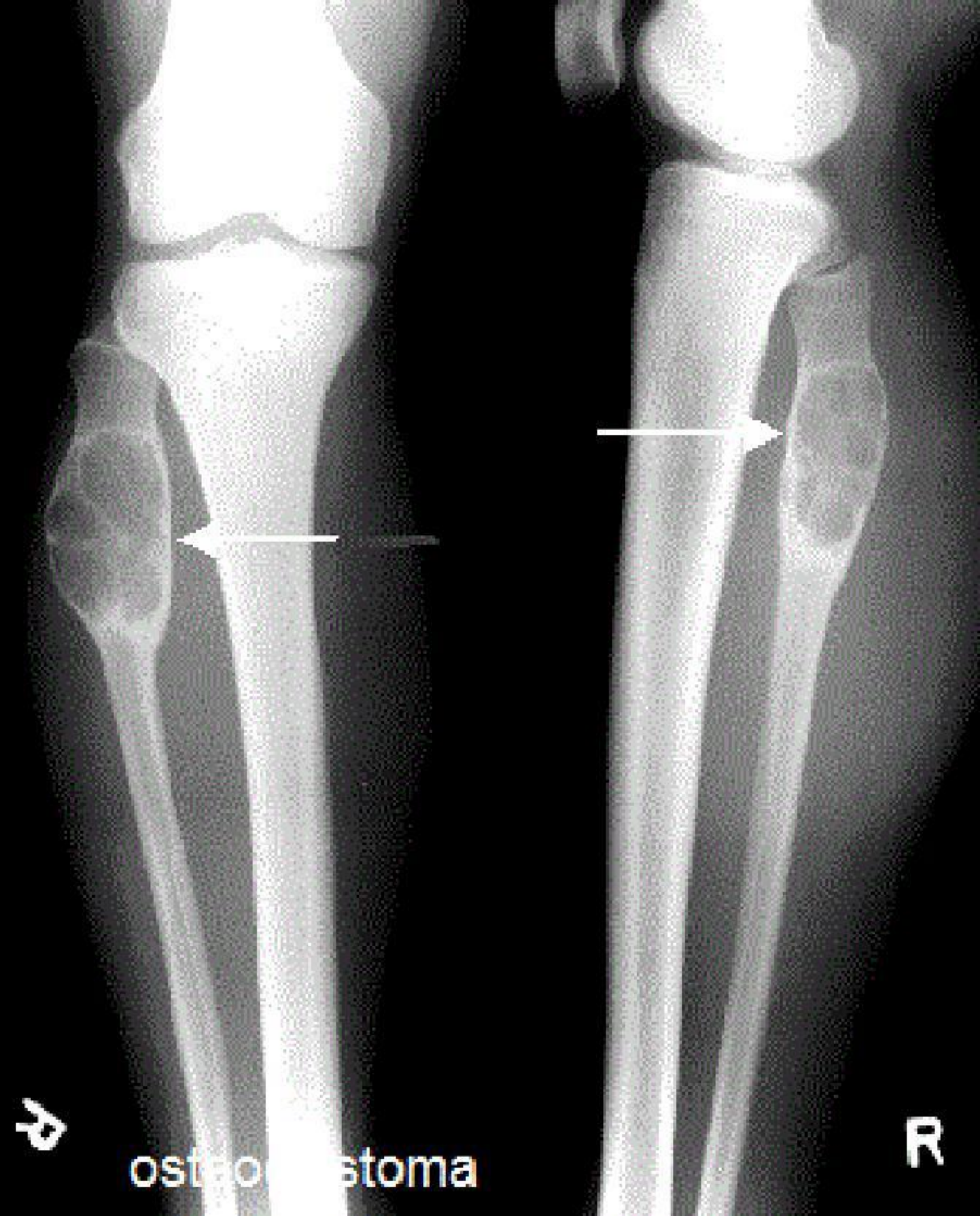
Multiple osteolytic lesions that affect the skull



Metastases or **multiple myeloma**




Onion


R
stoma


701x450 @ 47.0 kb


927x1000 @ 163.4 k



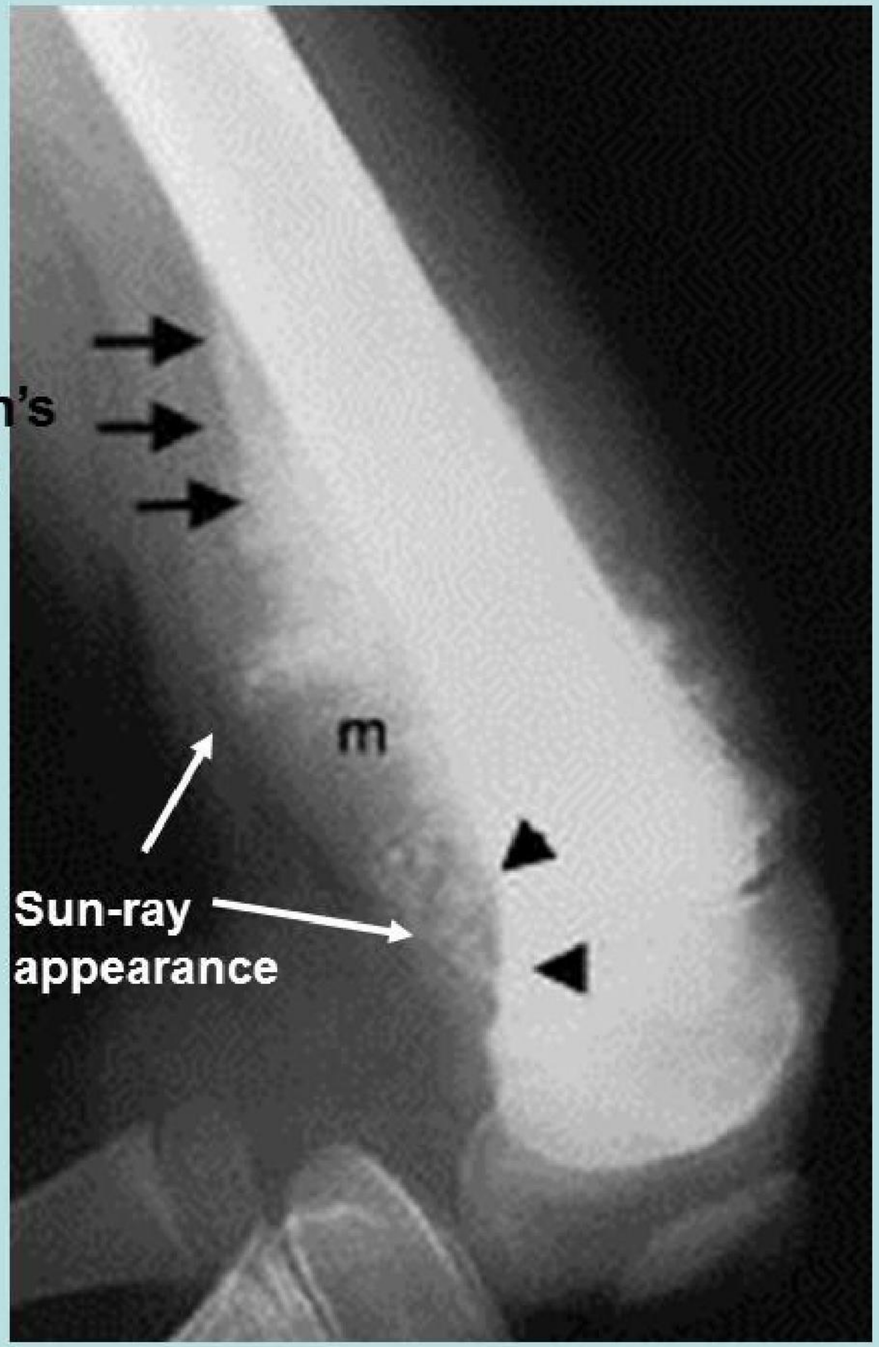
397x311 @ 25.6 kb

Bone Tumours

contents slide

Osteosarcoma facts:

- Commonest 1ry bone malignancy
- Children (rarely elderly on top of Paget's disease)
- Growing end of bones (commonest site is lower femur)
- Metaphyseal
- Bone destruction& new bone formation (see X-ray)
- Invasion of local soft tissues
- Blood spread to lungs



Bone Tumours

contents slide

Bone isotope scan showing

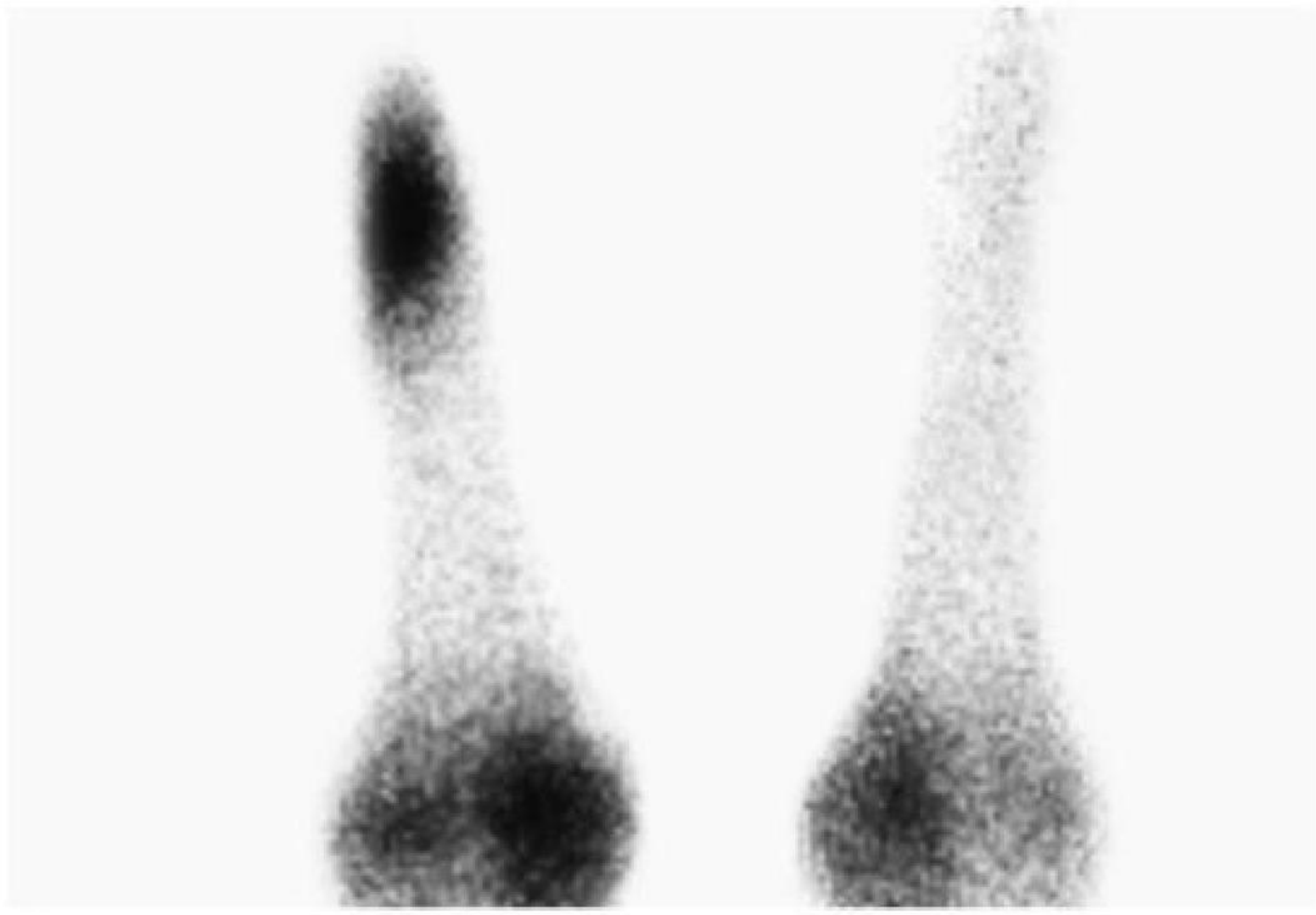
Multiple bone metastases that appear as dark spots



Bone metastases are the commonest bone malignancies



A



B

A- radiograph and B-isotope scan of ostoid osteoma



Copyright ©2006 by The McGraw-Hill Companies, Inc.
All rights reserved.

Radiograph of a giant cell tumor of the thumb. This is a typical moth-eaten appearance.



CT scan (ostoid osteoma)

Osteoid osteoma



Bone Tumours

contents slide

Giant-cell tumour

facts:

- Varying grades of malignancy
- Growing end of bones
- Epiphyseal
- Bone destruction NO new bone formation (see X-ray)
- Good demarcation between tumour and bone medulla
- No invasion of articular cartilage




B5-B6



Bone Tumours

contents slide



Enchondroma with pathological fracture

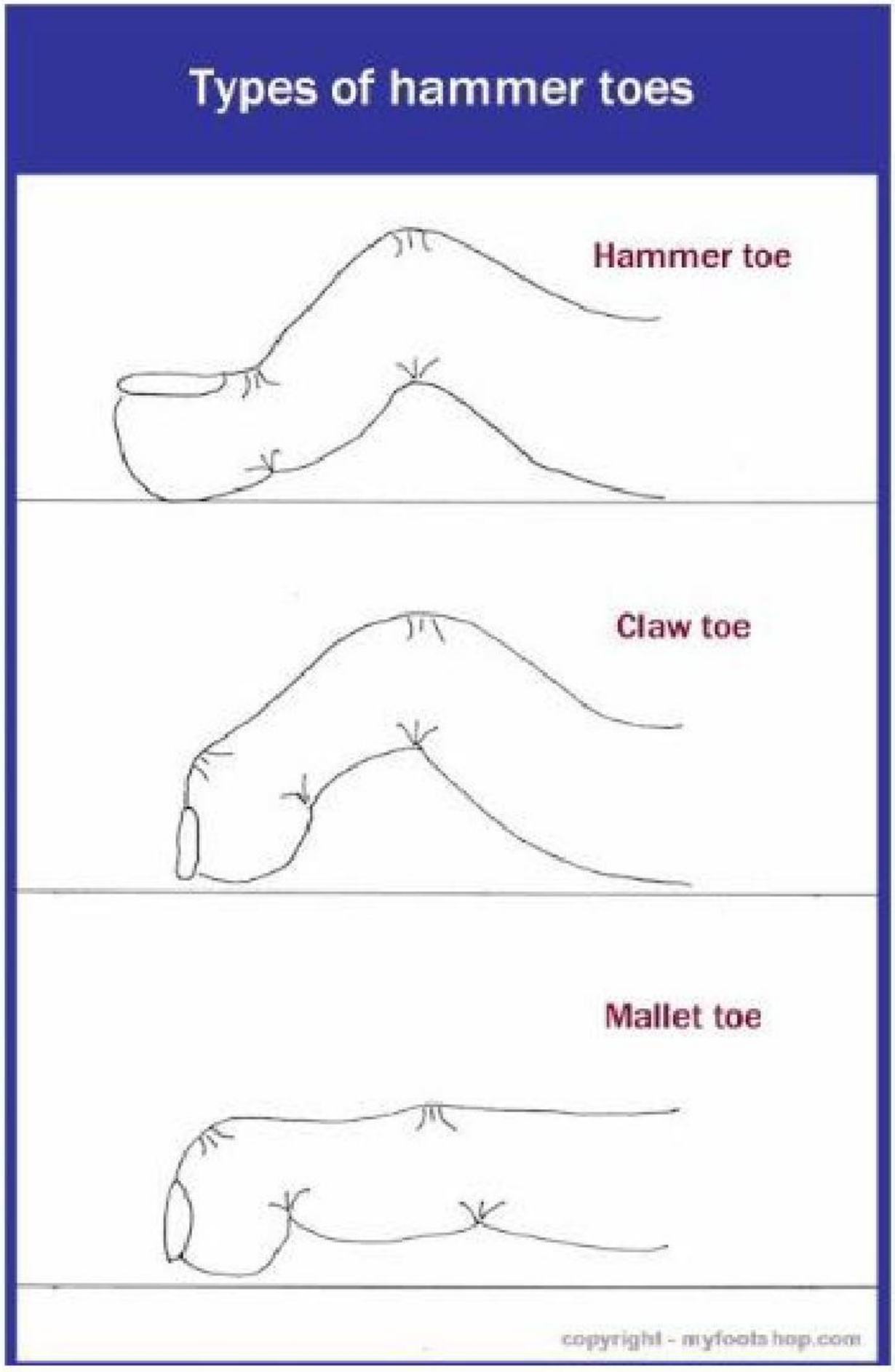


Radiolucent lesions of phalanges that expand bone from inside

Enchondromas. They may be multiple and may cause pathological fracture

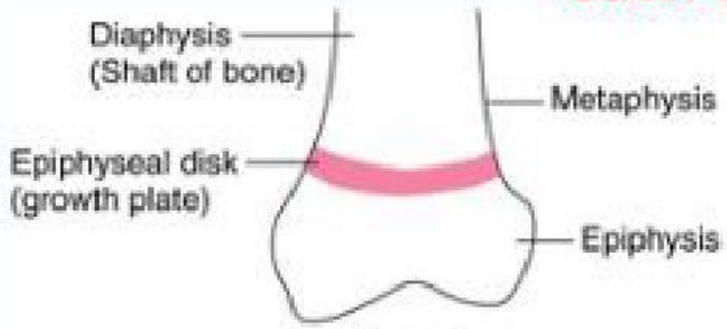

R
R

Types of hammer toes



copyright - myfoots hop.com

Salter-Harris classification



Normal



Type I

A complete physeal fracture with or without displacement



Type II

A physeal fracture that extends through the metaphysis, producing a chip fracture of the metaphysis, which may be very small



Type III

A physeal fracture that extends through the epiphysis



Type IV

A physeal fracture plus epiphyseal and metaphyseal fractures



Type V

A compression fracture of the growth plate



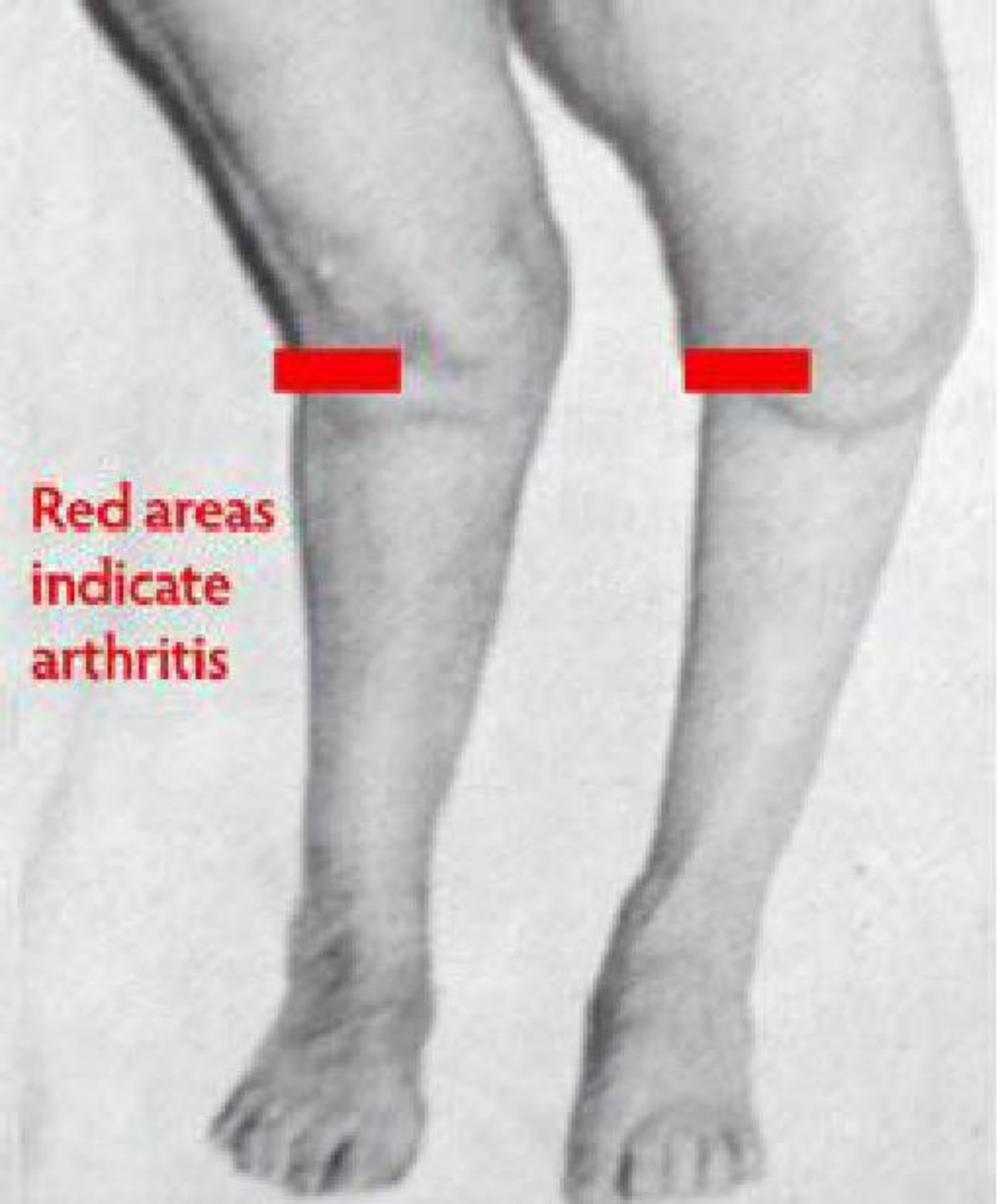


Genu valgum





Genu varum


Red areas
indicate
arthritis

Windswept



pes planus



-00x491 @ 35.3 k

Hallux valgus

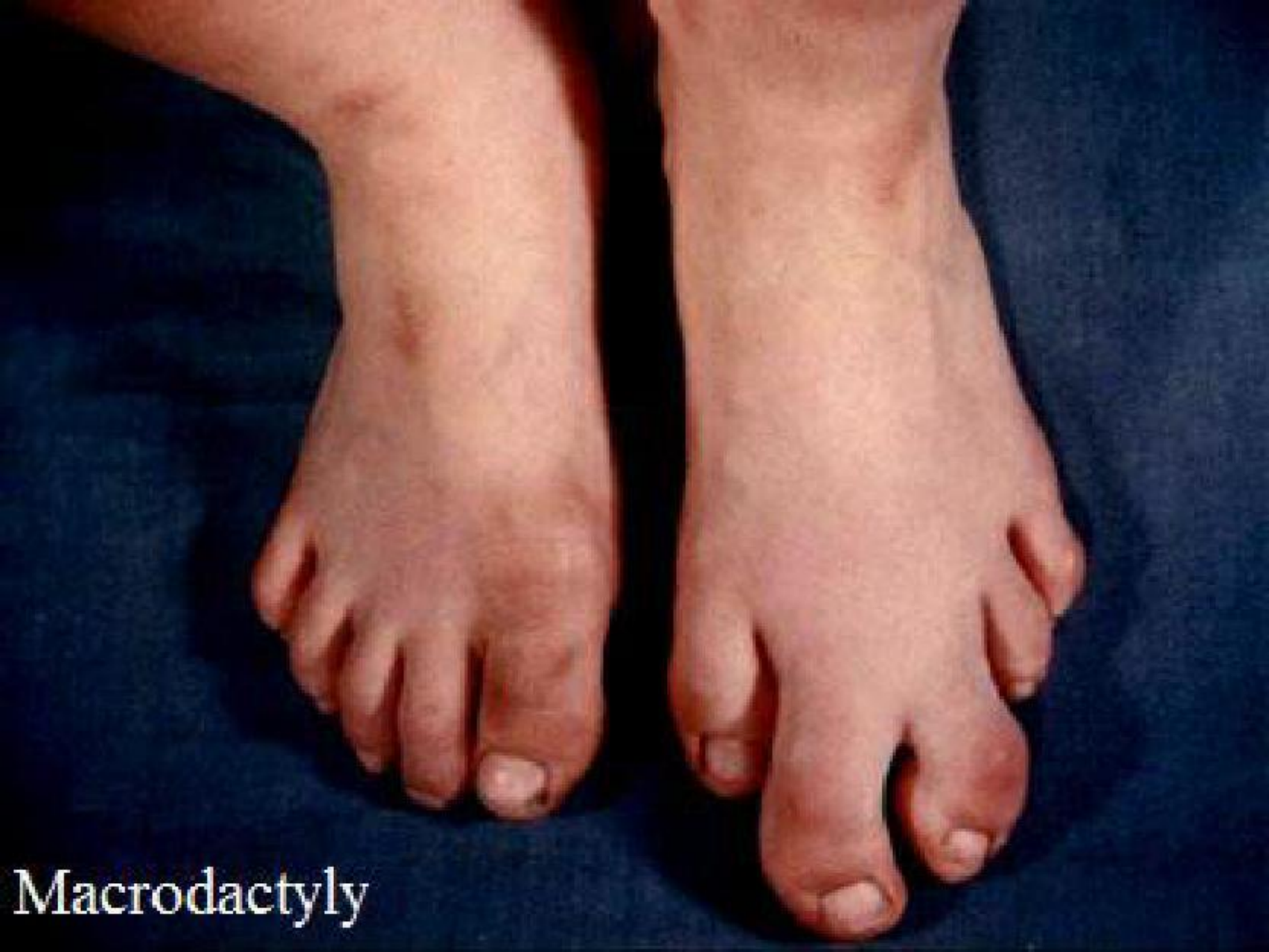



400x320 @ 34.3 kb

Hallux rigidus



Hallux rigidus is a form of degenerative arthritis.
((a condition restricting dorsiflexion of the hallux

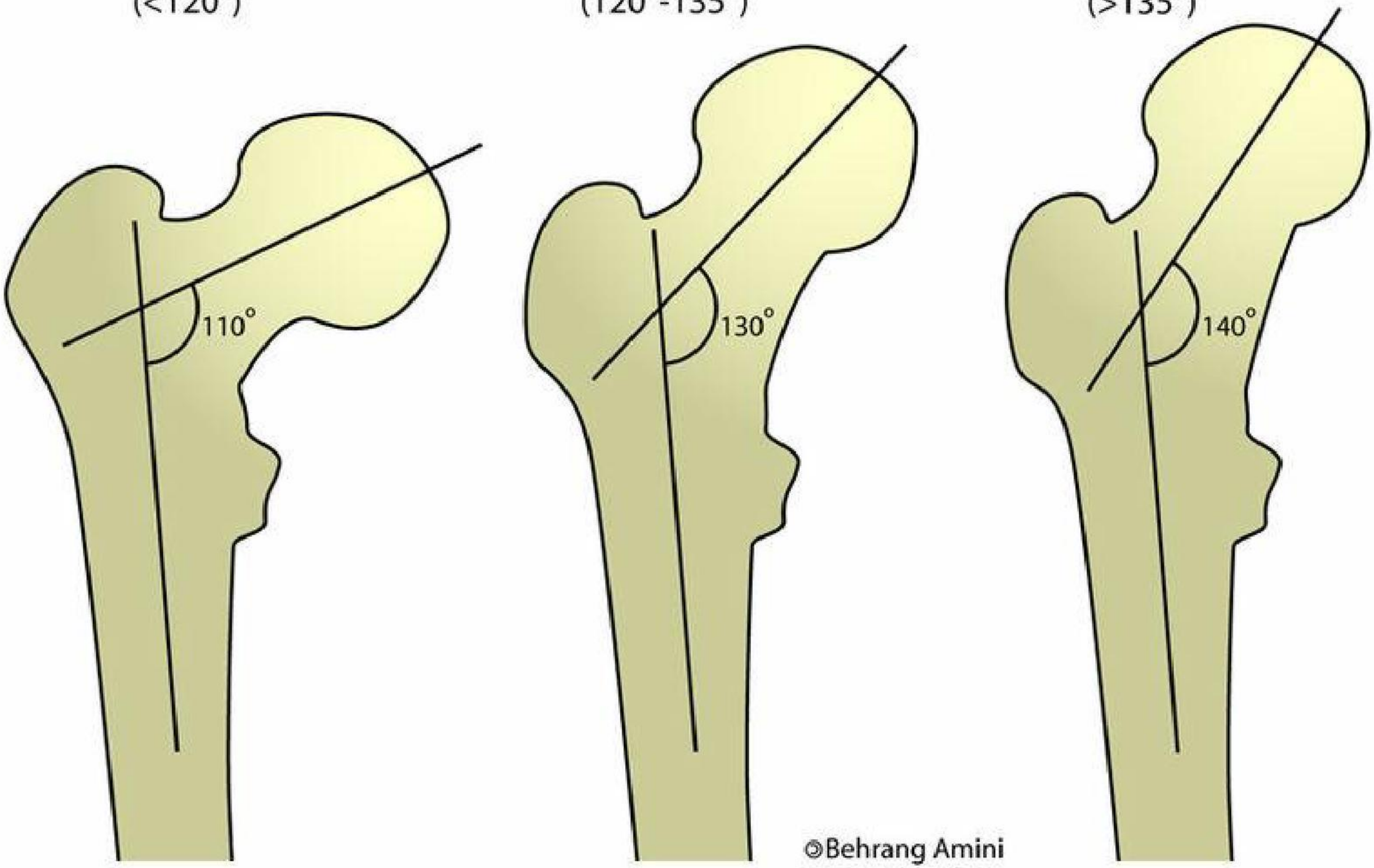

Macrodactyly


Ectromelia

Coxa vara
(<120°)

Normal
(120°-135°)

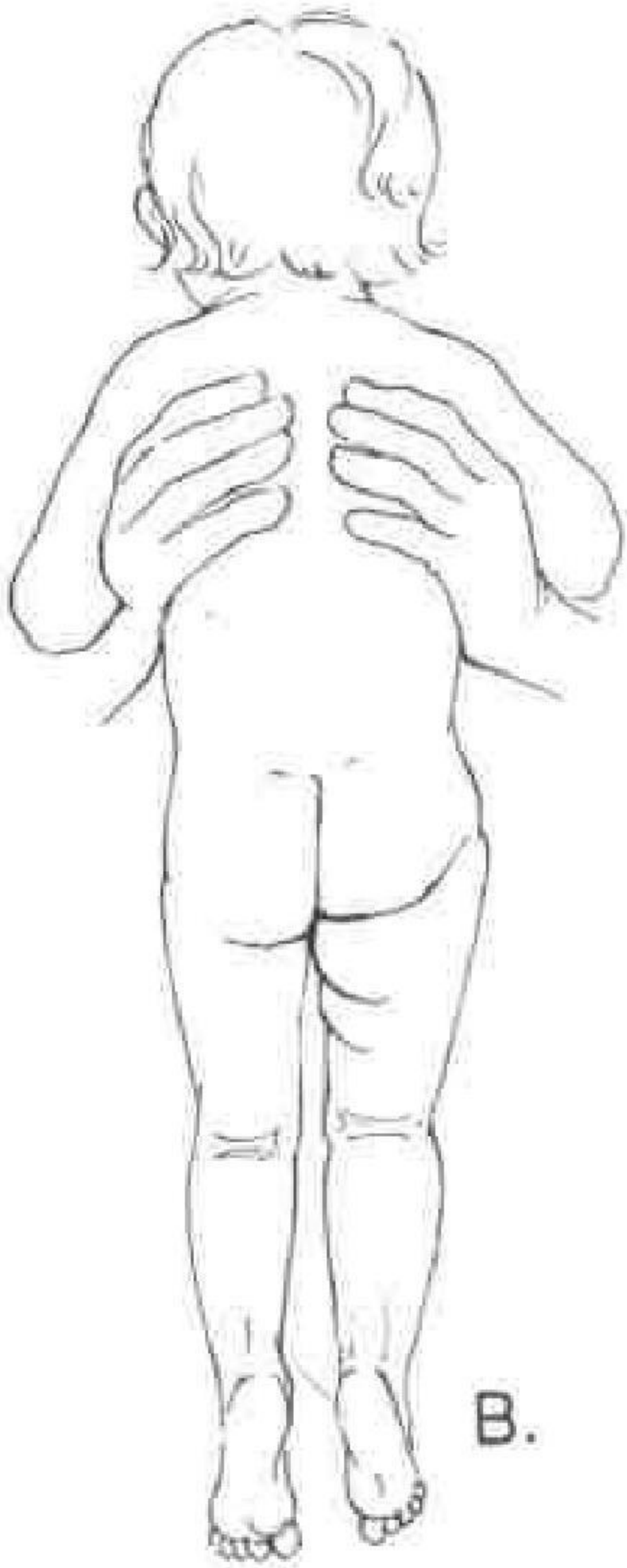
Coxa valga
(>135°)



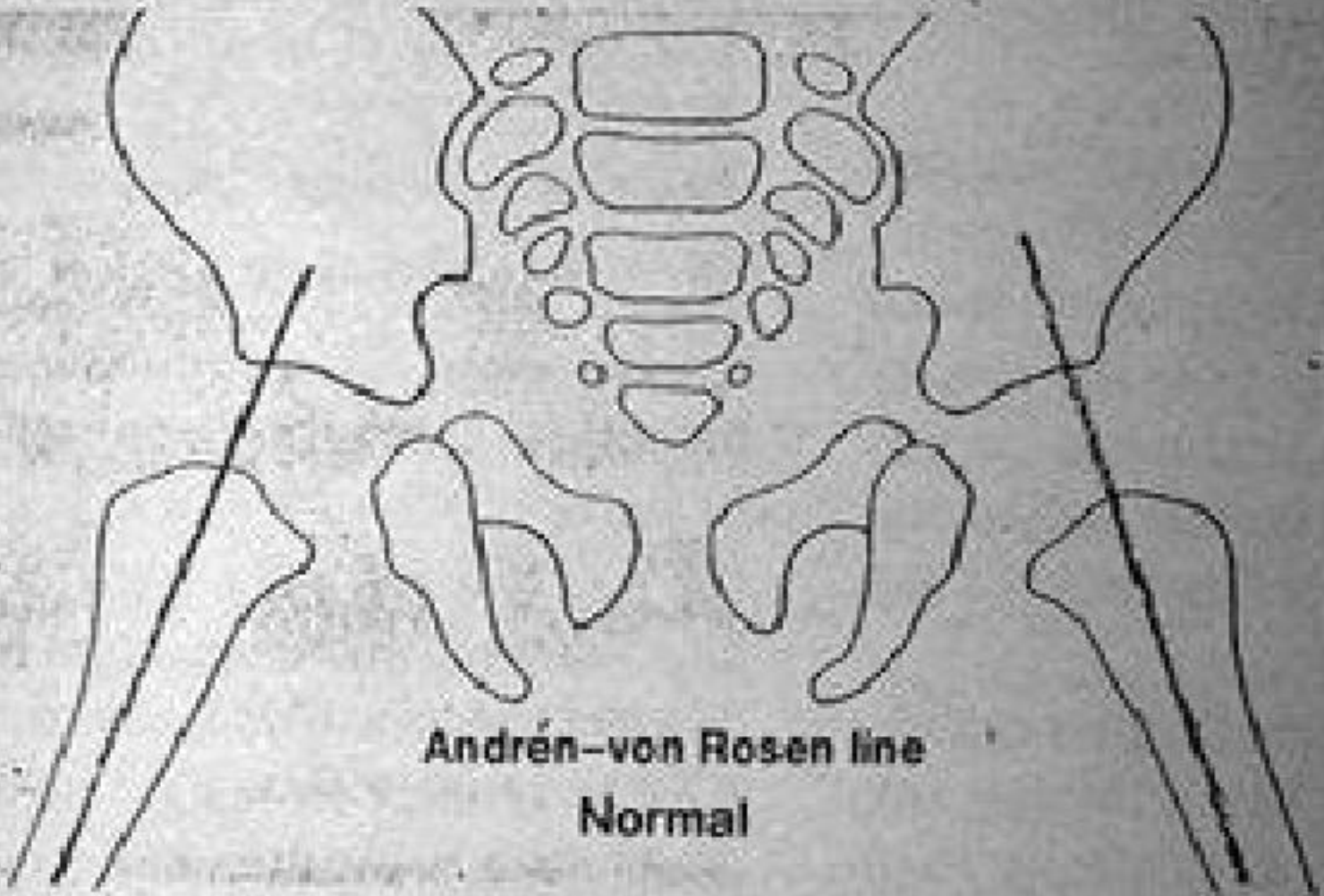
©Behrang Amini



A.



B.



Andrén–von Rosen line

Normal

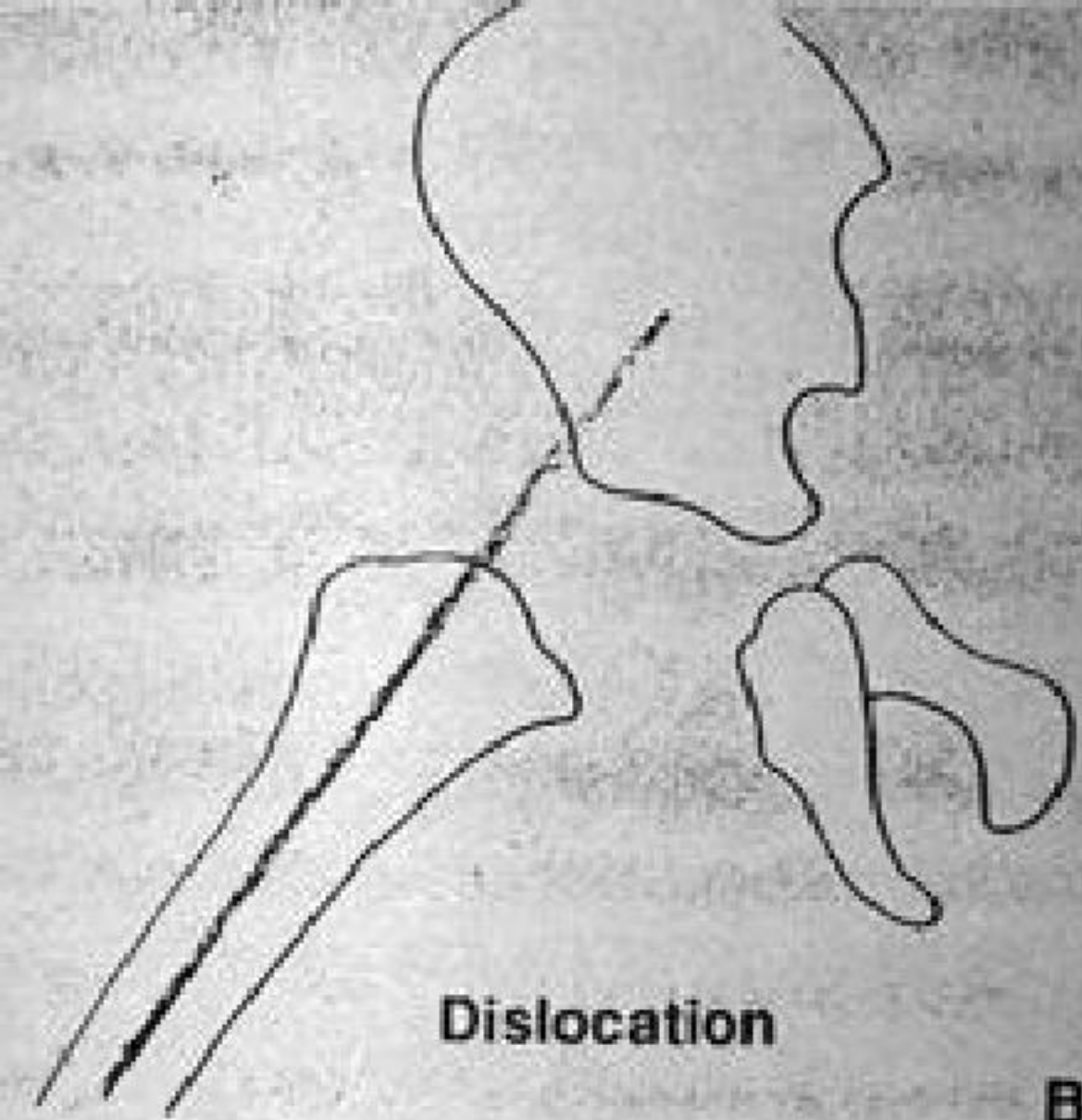
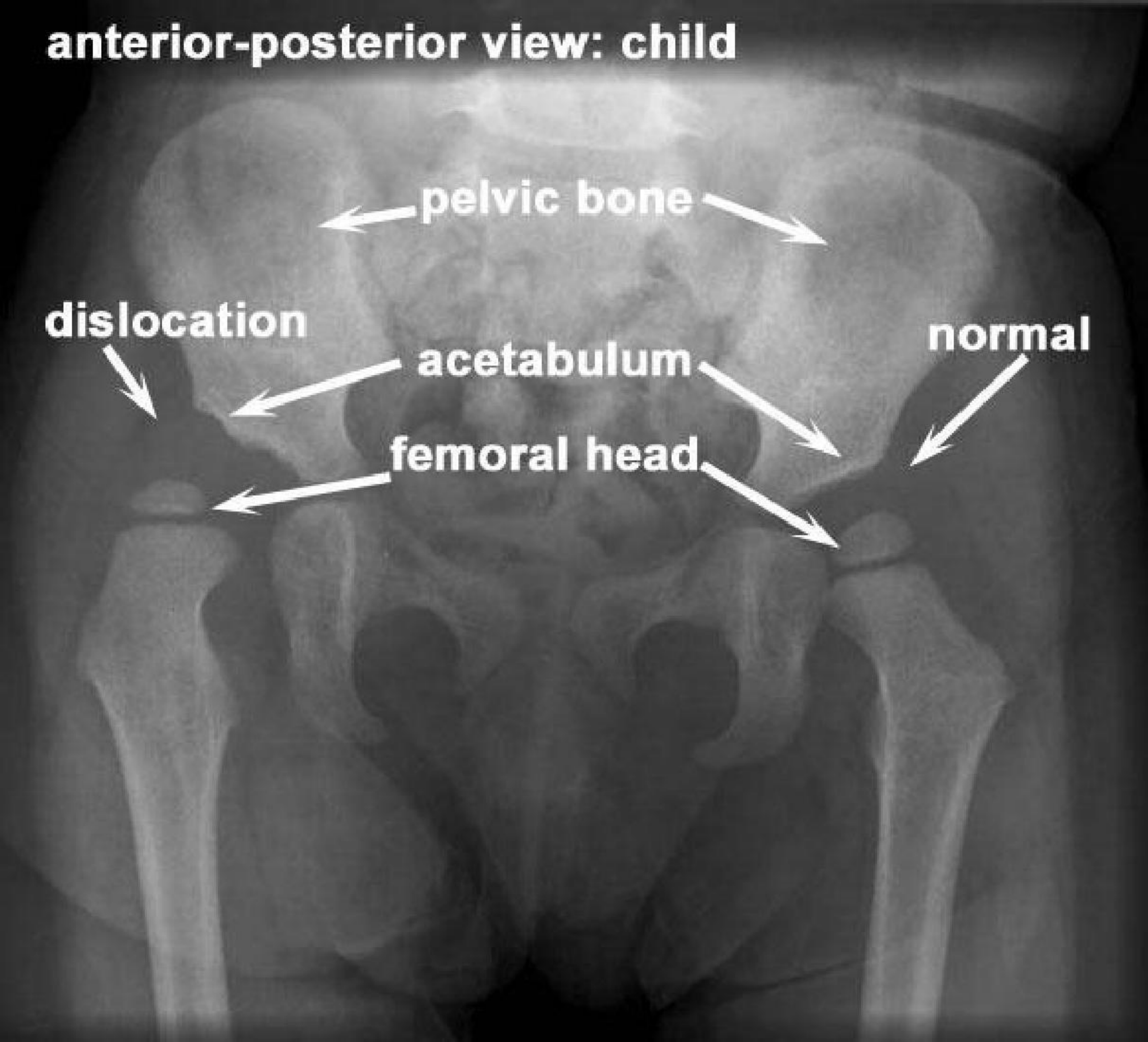


Figure 2 (B) Dislocation
In subluxation or dislocation of the hip, the line bisects or falls above the anteorsuperior iliac spine.

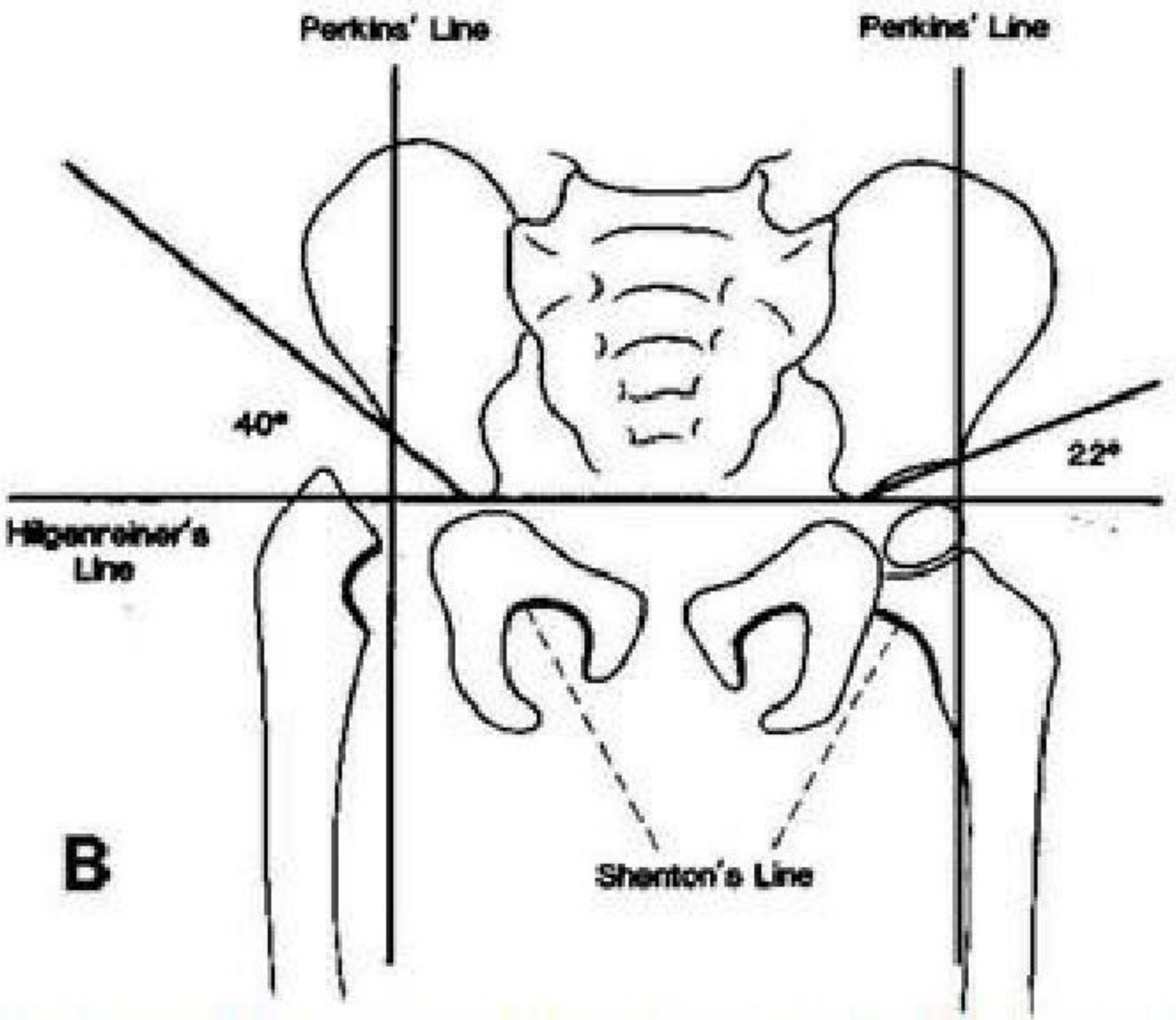



anterior-posterior view: child
pelvic bone
dislocation
normal
acetabulum
femoral head


1177x854 @ 84.4 kb


200x167 @ 29.4 kb





Acetabular index (acetabular roof angle : angle between horizontal line & line joining upper edges of acetabulum

Normal 20 ,in DDH >40






420x288 @ 60.0 kb



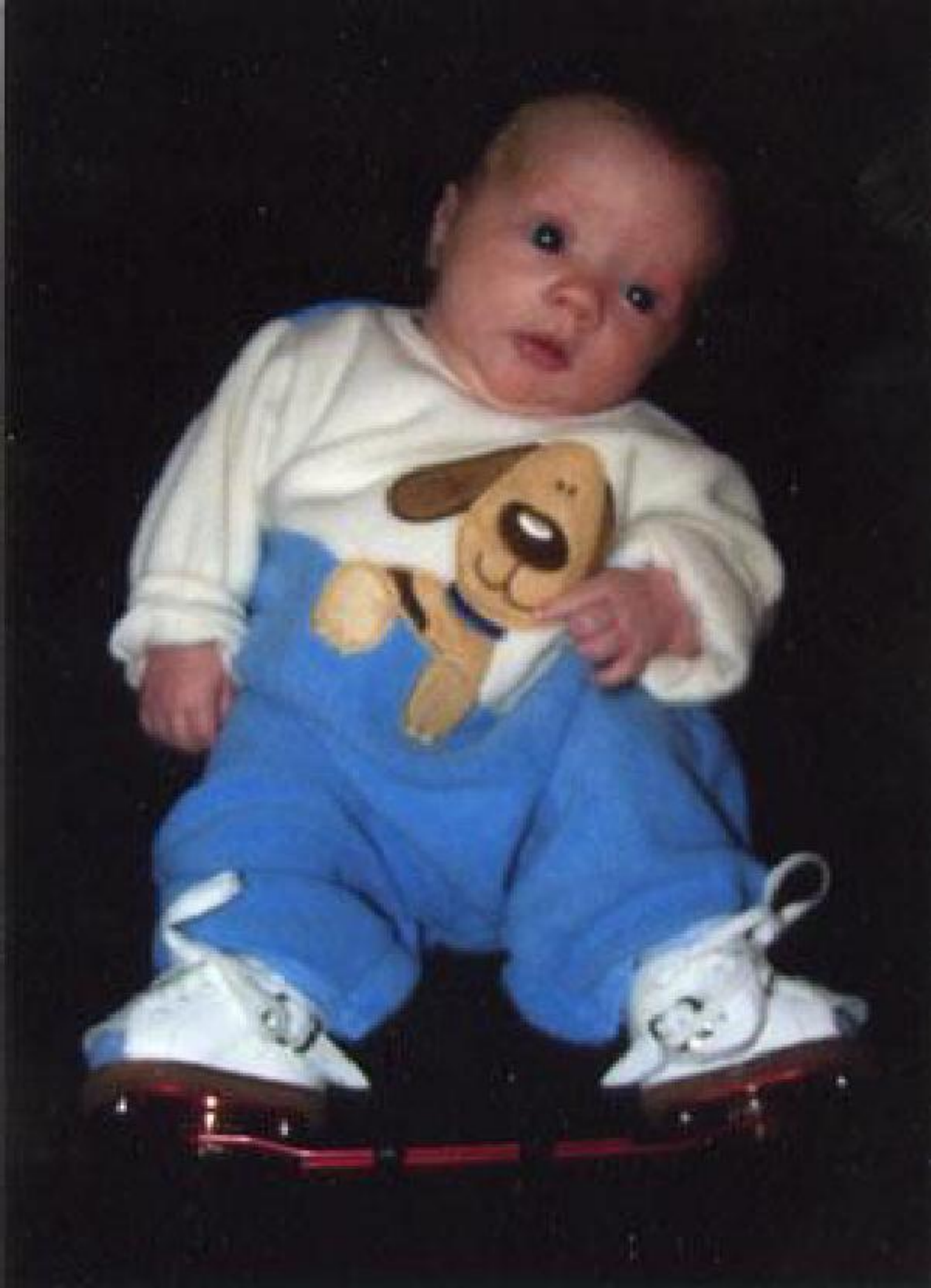




A.D.A.M.







scoliosis



Ehlers-Danlos Syndrome



Parchmentlike scars on forehead, hyperelasticity of auricles



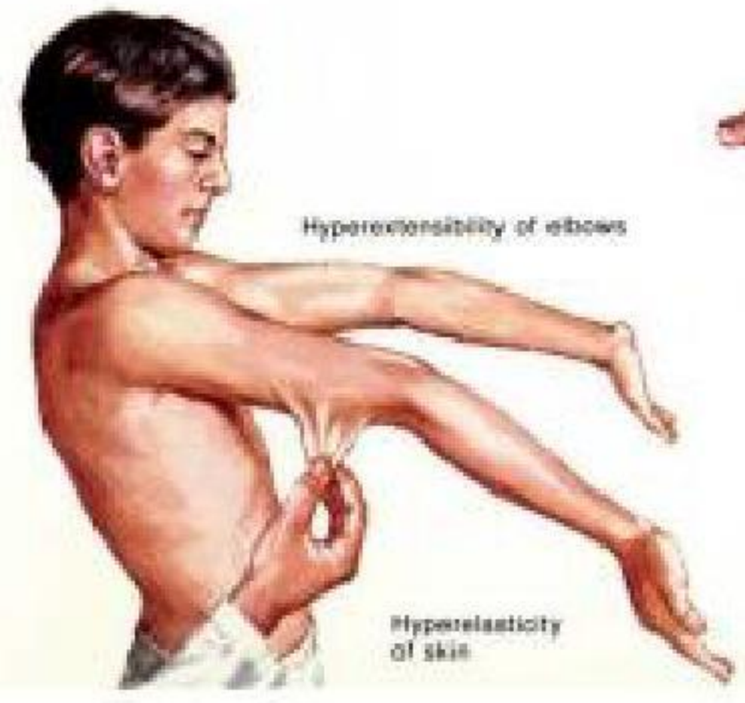
Hyperextensibility of thumb and fingers



Laparotomy scar from previous GI rupture

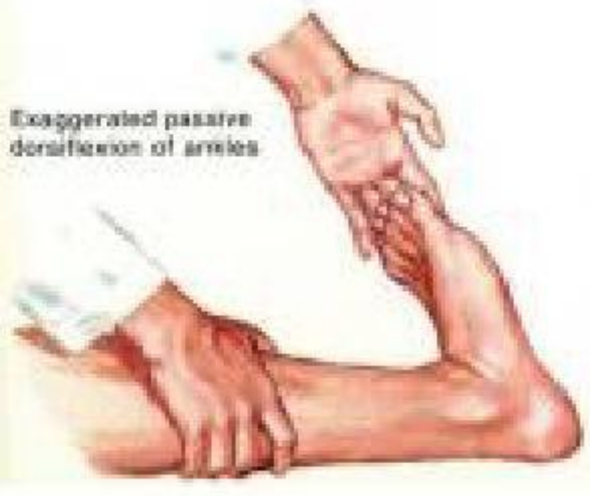
Bruisability

Cutaneous nodules on shins



Hyperextensibility of elbows

Hyperelasticity of skin



Exaggerated passive dorsiflexion of ankles

Genu recurvatum



Gout - Wikipedia, the free encyclopedia - Windows Internet Explorer
http://en.wikipedia.org/wiki/Gout
Google
gout
Search
Share
Sidewiki
Check
Translate
AutoFill
Sign In
Favorites
Gout - Wikipedia, the fr...
Connecting...
Page
Safety
Tools

Norsk (bokmål)
Polski
Português
Русский
Simple English
Slovenčina
Slovenščina
Српски / Srpski
Srpskohrvatski / Српскохрватски
Suomi
Svenska
Tagalog
தமிழ்
తెలుగు
ไทย
Türkçe
Українська
Tiếng Việt
中文

Signs and symptoms [edit]

Gout can present in a number of different ways, although the most usual is a recurrent attack of acute inflammatory arthritis (a red, tender, hot, swollen joint).[2] The metatarsal-phalangeal joint at the base of the big toe is affected most often, accounting for half of cases.[3] Other joints such as the heels, knees, wrists, and fingers may also be affected.[3] Joint pain usually begins over 2–4 hours and during the nighttime.[3] The reason for onset at night is due to the lower body temperature during this time.[1] Other symptoms that may occur along with the joint pain include fatigue and a high fever.[3] [1]

Long-standing elevated uric acid levels (hyperuricemia) may result in other symptomatology including hard, non-painful deposits of uric acid crystal known as tophi. Extensive tophi may lead to chronic arthritis due to bone erosion.[4] Elevated levels of uric acid may also lead to crystals precipitating in the kidneys resulting in stone formation. This may result in urate nephropathy.[5]



Gout presenting in the metatarsal-phalangeal joint of the big toe. Note the slight redness of the skin overlying the joint.

Cause [edit]

Hyperuricemia is the underlying cause of gout. This can occur for a number of reasons including dietary, genetic, or underexcretion of urate, the salts of uric acid.[2] About 10% of people with hyperuricemia develop gout at some point in their lifetime.[6] The risk however varies depending on the degree of hyperuricemia. When levels are between 415 and 530 µmol/L (7 and 8.9 mg/dL) the risk is 0.5% per year; while in those with a level greater than 535 µmol/L (9 mg/dL) the risk is 4.5% per year.[1]



Tophi of the knee.

Lifestyle [edit]

Dietary causes account for about about 12% of gout,[2] and include a strong association with the consumption of alcohol, sugar, meat, and seafood.[4] Recent studies have found that dietary factors once believed to be associated are in fact not, including the intake of purine rich vegetables and total protein.[7][8] Coffee consumption, vitamin C, dairy products and physical fitness appear to decrease the risk.[9][10][11] This is believed to be partly due to their effect in reducing insulin resistance.[11]

Internet | Protected Mode: On
100%
EN
12:21 AM
6/22/2010

Gout - Wikipedia, the free encyclopedia - Windows Internet Explorer
http://en.wikipedia.org/wiki/Gout
Google
gout
Search
Share
Sidewiki
Check
Translate
AutoFill
Sign In
Favorites
Gout - Wikipedia, the fr...
Connecting...
Page
Safety
Tools

vegetables and total protein.[7][8] Coffee consumption, vitamin C, dairy products and physical fitness appear to decrease the risk.[9][10][11] This is believed to be partly due to their effect in reducing insulin resistance.[11]

Tophi of the knee.

Medical conditions [edit]

Gout frequently occurs in combination with other medical problems. Metabolic syndrome, a combination of abdominal obesity, hypertension, insulin resistance and abnormal lipid levels occurs in nearly 75% of cases.[3] Other conditions which are commonly complicated by gout include: polycythaemia, obesity, diabetes, Lesch-Nyhan syndrome, hypertension, renal failure, hemolytic anemia and solid organ transplants.[12] A body mass index greater than or equal to 35 increases a male's risk of gout three-fold.[8] Chronic lead exposure and lead contaminated alcohol are risk factors for gout due to the harmful effect of lead on kidney function.[13]

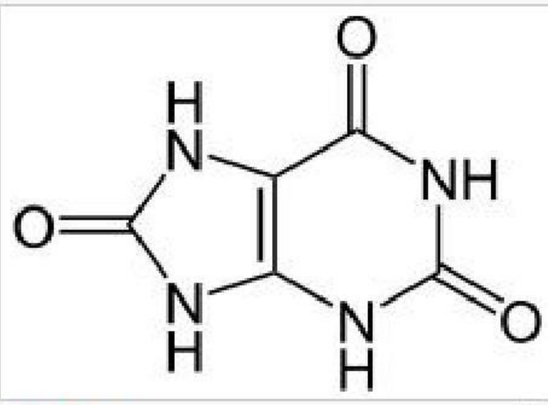
Medication [edit]

Diuretics have been associated with attacks of gout however a low dose of hydrochlorothiazide (HCTZ) does not seem to increase the risk.[14] Other medicines that have been associated include niacin and aspirin (acetylsalicylic acid).[4] Cyclosporine is also associated with gout, particularly when used in combination with hydrochlorothiazide.[15]

Pathophysiology [edit]

Gout occurs when crystals of uric acid, in the form of monosodium urate, precipitate in joints, on tendons, and in the surrounding tissues.[4] These crystals may then trigger a local immune mediated inflammatory reaction. The triggers for precipitation are not well understood. While uric acid may crystallize at normal levels, it is more likely to do so as levels increase.[4][16] Other factors believed to be important in triggering an acute episode of arthritis include: cool temperatures, rapid changes in uric acid levels, and acidosis.[17][18] The increased precipitation at low temperatures partly explains why the joints in the feet are most commonly affected.[2] Rapid changes in uric acid may occur due to a number of factors including: trauma, surgery, chemotherapy, diuretics, and stopping or starting allopurinol.[1]

Uric acid



Uric acid

Diagnosis [edit]

http://en.wikipedia.org/wiki/Uric_acid
Internet | Protected Mode: On
100%
EN
12:21 AM
6/22/2010

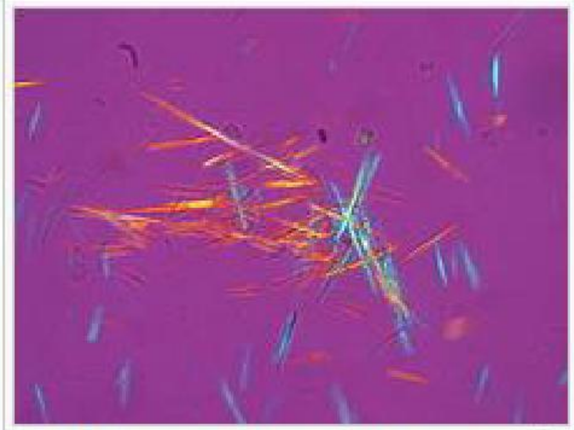
Gout - Wikipedia, the free encyclopedia - Windows Internet Explorer
http://en.wikipedia.org/wiki/Gout
Google
gout
Search
Share
Sidewiki
Check
Translate
AutoFill
Sign In
Favorites
Gout - Wikipedia, the fr...
Connecting...
Page
Safety
Tools

Diagnosis [edit]

Gout may be diagnosed and treated without further investigations in someone with hyperuricemia and the classic podagra. Synovial fluid analysis should be done however if the diagnosis is in doubt.[1]

Synovial fluid [edit]

A definitive diagnosis of gout is based upon the identification of monosodium urate (MSU) crystals in synovial fluid or a tophus.[3] Under polarized light microscopy they have a needle-like morphology and strong negative birefringence. This test is difficult to perform and often requires a trained observer.[19]



Spiked rods of uric acid (MSU) crystals photographed under a microscope with polarized light from a synovial fluid sample. Formation of uric acid crystals in the joints are associated with gout.

Blood tests [edit]

Hyperuricemia is a classic feature of gout, however gout occurs nearly half of the time without hyperuricemia and most people with raised uric acid levels never develop gout.[3][20] Thus the diagnostic utility of measuring a uric acid level is limited.[3] Hyperuricemia is defined as a plasma urate level greater than 420 μmol/L (7.0 mg/dL) in males and 360 μmol/L (6.0 mg/dL) in females.[21] Other blood tests commonly performed are white blood cell count, electrolytes, renal function, and erythrocyte sedimentation rate (ESR). However both the white blood cells and ESR may be elevated due to gout in the absence of infection.[22][23] A white blood cell count as high as 40×10^9/L (40,000/mm^3) has been documented.[1]

Differential diagnosis [edit]

An important differential diagnosis in gout is septic arthritis.[3] This should be considered in those with signs of infection or those who do not improve with treatment.[3] To help with diagnosis a synovial fluid gram stain and culture may be performed.[3] Other conditions which present similarly include pseudogout and rheumatoid arthritis.[3] Gouty tophi, in particular when not located in a joint, can be mistaken for basal cell carcinoma,[24] or other neoplasms.[25]

Prevention [edit]

Both lifestyle changes and medication can decrease uric acid levels. Dietary and lifestyle choices that are effective include reducing intake of

Internet | Protected Mode: On
100%
EN
12:22 AM
6/22/2010

Gout - Wikipedia, the free encyclopedia - Windows Internet Explorer
http://en.wikipedia.org/wiki/Gout
Google
gout
Search
Share
Sidewiki
Check
Translate
AutoFill
Sign In
Favorites
Gout - Wikipedia, the fr...
Connecting...
Page
Safety
Tools

carcinoma,[24] or other neoplasms.[25]

Prevention [edit]

Both lifestyle changes and medication can decrease uric acid levels. Dietary and lifestyle choices that are effective include reducing intake of food high in purines such as meat and seafood, consuming adequate vitamin C, limiting alcohol and fructose consumption and avoiding obesity.[2] A low-calorie diet in obese men decreased uric acid levels by 100 µmol/L (1.7 mg/dL).[14] Vitamin C intake of 1,500 mg per day decreases the risk of gout by 45% compared to 250 mg per day.[26] Coffee but not tea consumption is associated with a lower risk of gout.[27] Gout may be secondary to sleep apnea via the release of purines from oxygen-starved cells. Treatment of apnea can lessen the occurrence of attacks.[28]

Treatment [edit]

The initial aim of treatment is to settle the symptoms of an acute attack.[29] Repeated attacks can be prevented by different drugs used to reduce the serum uric acid levels.[29] Ice applied for 20 to 30 minutes several times a day decreases pain.[2][30] Options for acute treatment include nonsteroidal anti-inflammatory drugs (NSAIDs), colchicine and steroids[2] while options for prevention include allopurinol, probenecid and febuxostat.

NSAIDs [edit]

NSAIDs are the usual first-line treatment for gout, and no agent is significantly more or less effective than any other.[2] Improvement may be seen within 4 hours.[2] They however are not recommended in those with certain other health problems such as gastrointestinal bleeding, renal failure, or heart failure.[31] While indomethacin has historically been the most commonly used NSAID, an alternative like ibuprofen may be preferred due to its better side-effect profile in the absence of superior effectivenes.[14] For those at risk of gastric side effects from NSAIDs, an additional proton pump inhibitor may be given.[32]

Colchicine [edit]

Colchicine is an alternative for those unable to tolerate NSAIDs.[2] Its side-effects (primarily gastrointestinal upset) limit its usage.[33][34] Gastrointestinal upset, however, depends on the dose and the risk can be decreased by using smaller yet still effective doses.[14] Colchicine may interact with other commonly prescribed drugs such as atorvastatin and erythromycin among others.[34]

Steroids [edit]

Internet | Protected Mode: On
100%
EN
12:22 AM
6/22/2010

Gout

From Wikipedia, the free encyclopedia

Gout (also known as **podagra** when it involves the big toe[1]) is a medical condition usually characterized by recurrent attacks of acute inflammatory arthritis—a red, tender, hot, swollen joint. The metatarsal-phalangeal joint at the base of the big toe is the most common affected, in around half of all cases. However, it may also present as tophi, kidney stones, or urate nephropathy. It is caused by elevated levels of uric acid in the blood which crystallize and are deposited in joints, tendons, and surrounding tissues.

Diagnosis is confirmed clinically by the visualization of the characteristic crystals in joint fluid. Treatment with non-steroidal anti-inflammatory drugs (NSAIDs), steroids, or colchicine improves symptoms. Once the acute attack has subsided, levels of uric acid are usually lowered via lifestyle changes, and in those with frequent attacks allopurinol or probenicid provide long-term prevention.

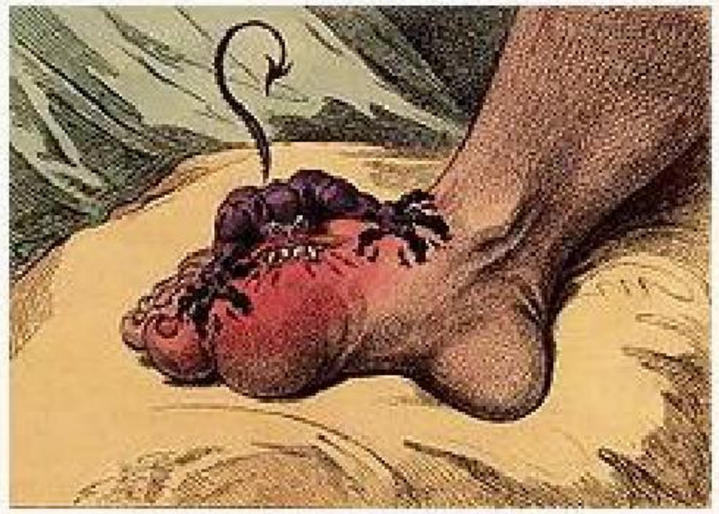
Affecting around 1% of the Western population at some point in their lives, gout has increased in frequency in recent decades. This is believed to be due to increasing risk factors for gout in the population such as metabolic syndrome, longer life expectancy, and changes in diet. Gout was historically known as "the disease of kings" or "rich man's disease".

Contents [hide]

1 Signs and symptoms
2 Cause
  2.1 Lifestyle
  2.2 Medical conditions

Gout

Classification and external resources



A 1799 cartoon depicting gout.

ICD-10	M10.
ICD-9	274.00 274.1 274.8 274.9
OMIM	138900 300323
DiseasesDB	29031
MedlinePlus	000422
eMedicine	emerg/221 med/924 med/1112 oph/506

Internet | Protected Mode: On 100%

Acute gouty arthritis on the big toe of an elderly man.



Fibrous dysplasia of bone

From Wikipedia, the free encyclopedia



This article **needs additional citations for verification.**

Please help improve this article by adding reliable references. Unsourced material may be challenged and removed.

(January 2009)

Fibrous dysplasia is a disease that causes bone thinning[1] and growths or lesions in one or more bones, and leads to bone weakness and scar formation within the bones [2].

Contents [hide]

1 Presentation
2 Causes
3 See also
4 References
5 External links

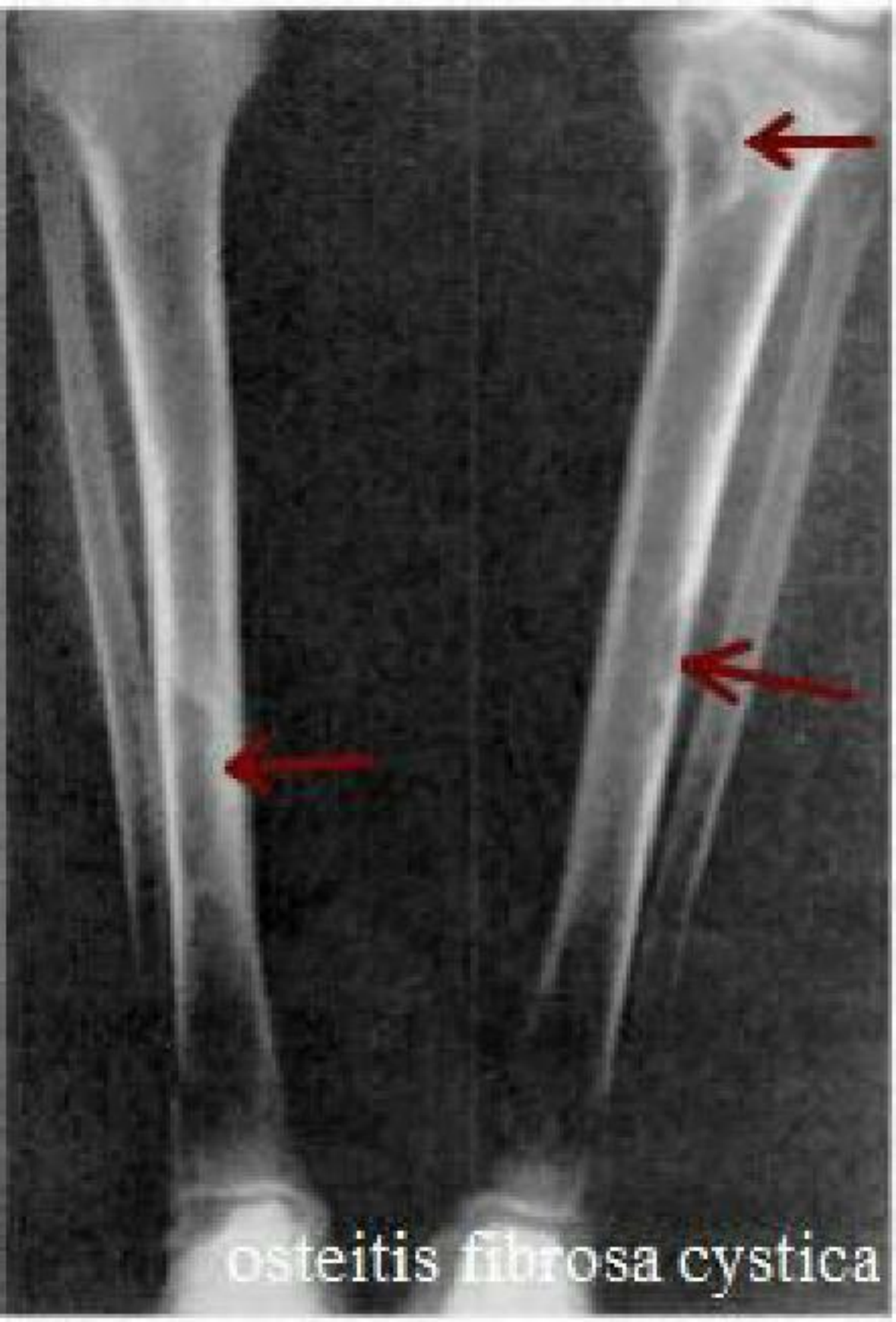
Fibrous dysplasia	
Classification and external resources	
ICD-10	K10.8, M85.0, Q78.1
ICD-9	526.89, 733.29, 756.54
MedlinePlus	001234
eMedicine	radio/284
MeSH	D005357

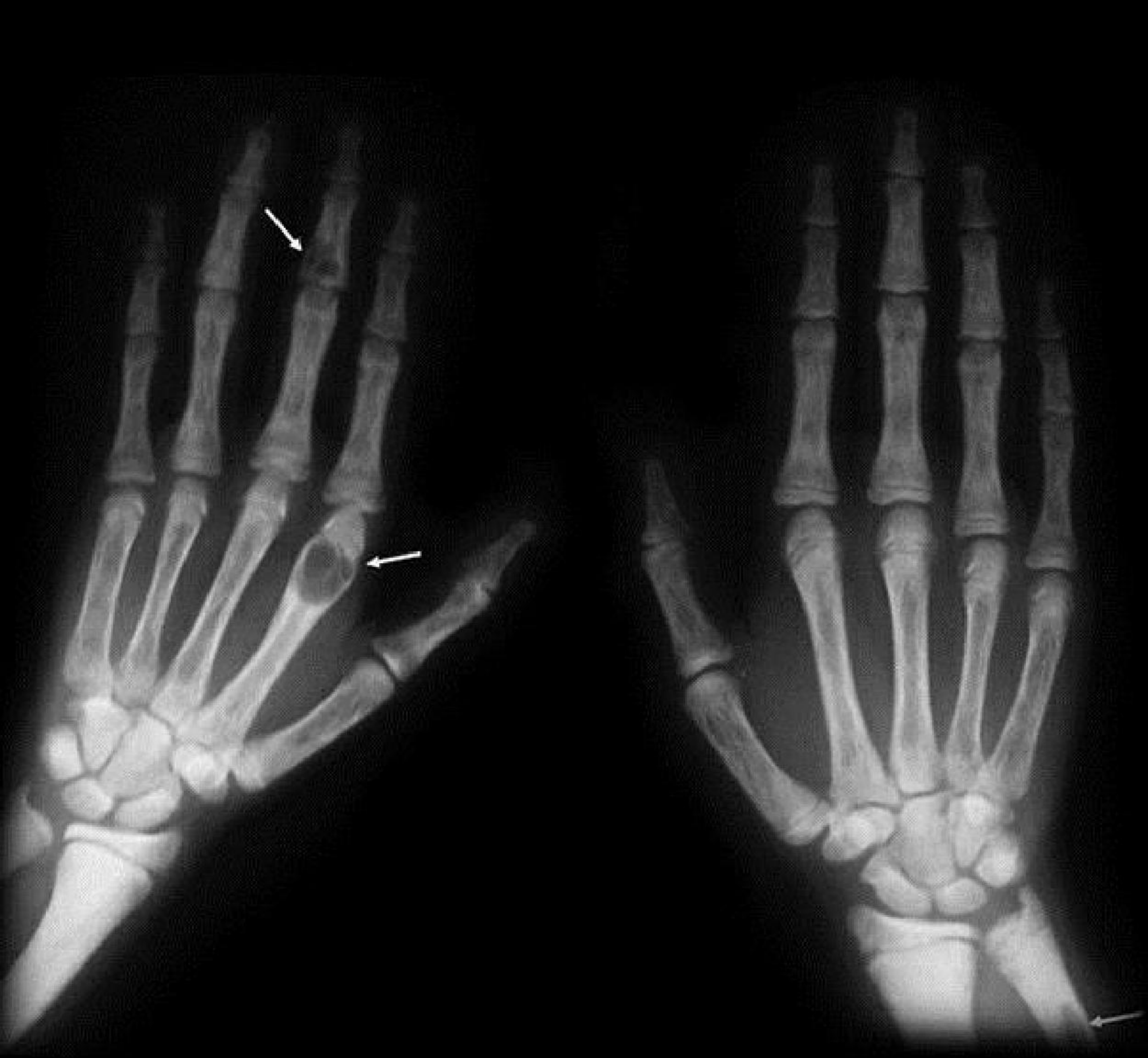
Presentation [edit]

These lesions are tumor-like growths that consist of replacement of the medullary bone with fibrous tissue, causing the expansion and weakening of the areas of bone involved. Especially when involving the skull or facial bones, the lesions can cause externally visible deformities. The skull is often, but not necessarily, affected, and any other bone(s) can be involved.

- Many patients have lesions localized in only one bone (monostotic fibrous dysplasia), affecting 70-80%.
- Others have them in many bones (polyostotic fibrous dysplasia).

In 3% of cases, people suffering from fibrous dysplasia also have endocrine diseases and skin pigmentation; the three together constitute McCune-Albright syndrome. These endocrine diseases include precocious (early) puberty, often occurring as early as 6 years old.


osteitis fibrosa cystica



osteitis fibrosa cystica Brown tumour

contents slide

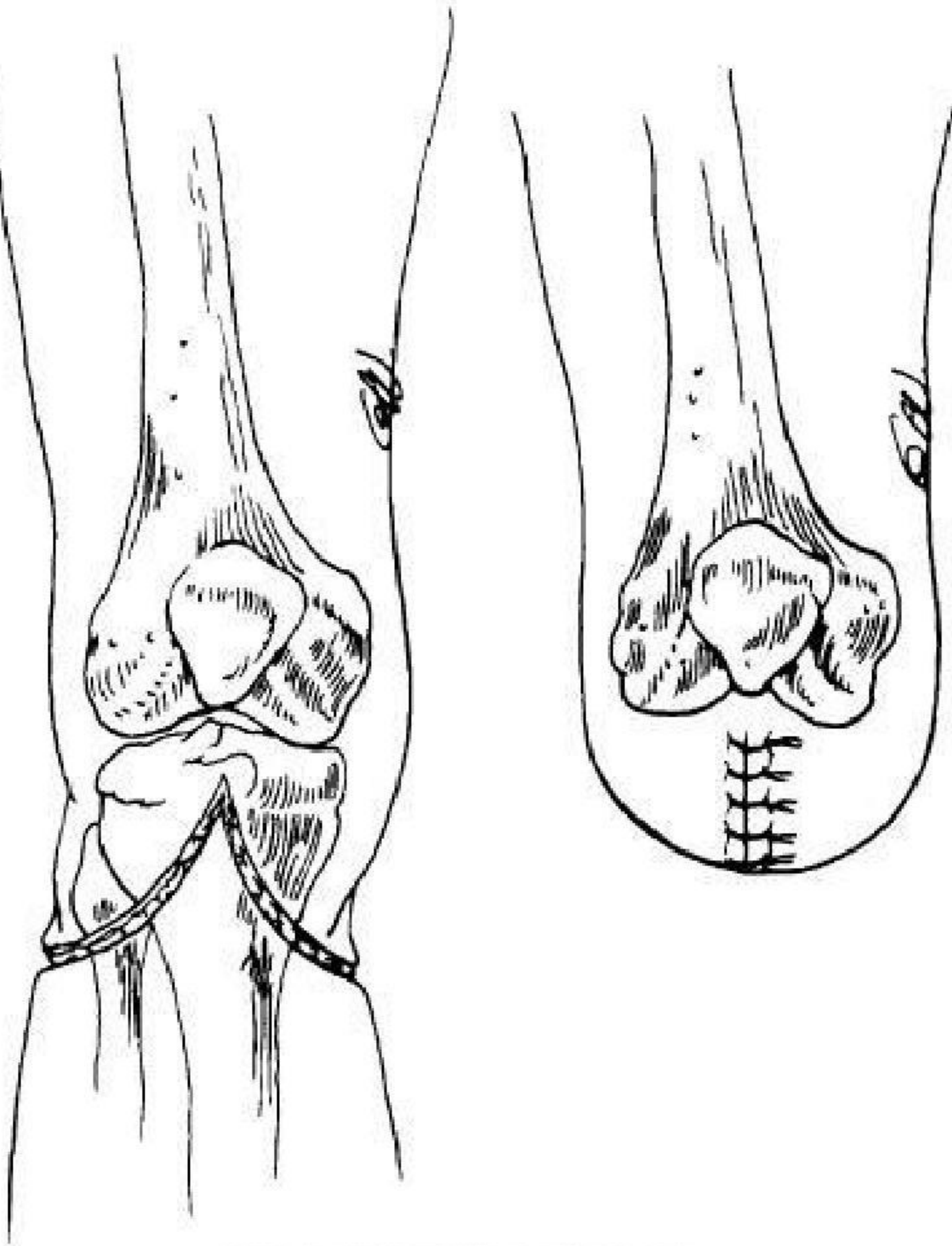
Other Bone Diseases

Hyperparathyroidism may produce multiple bone cysts

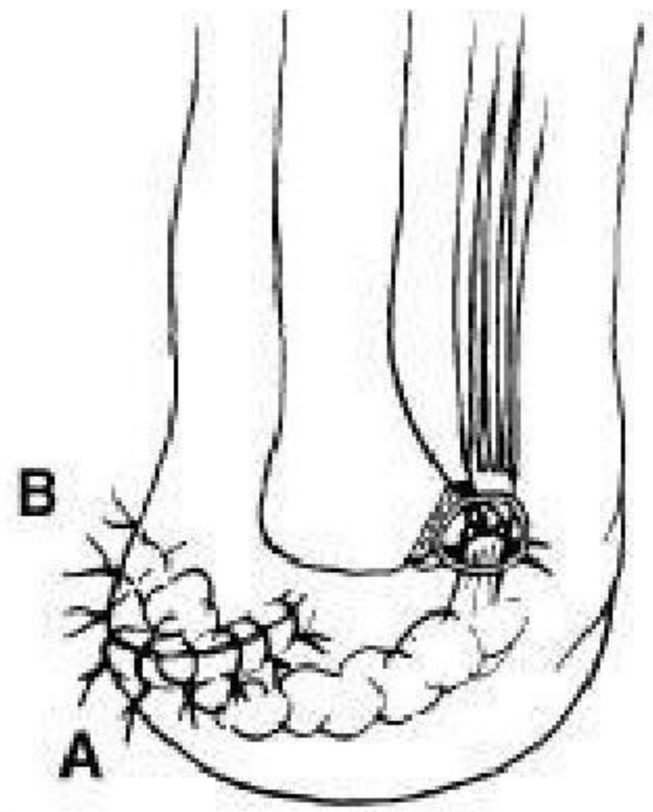




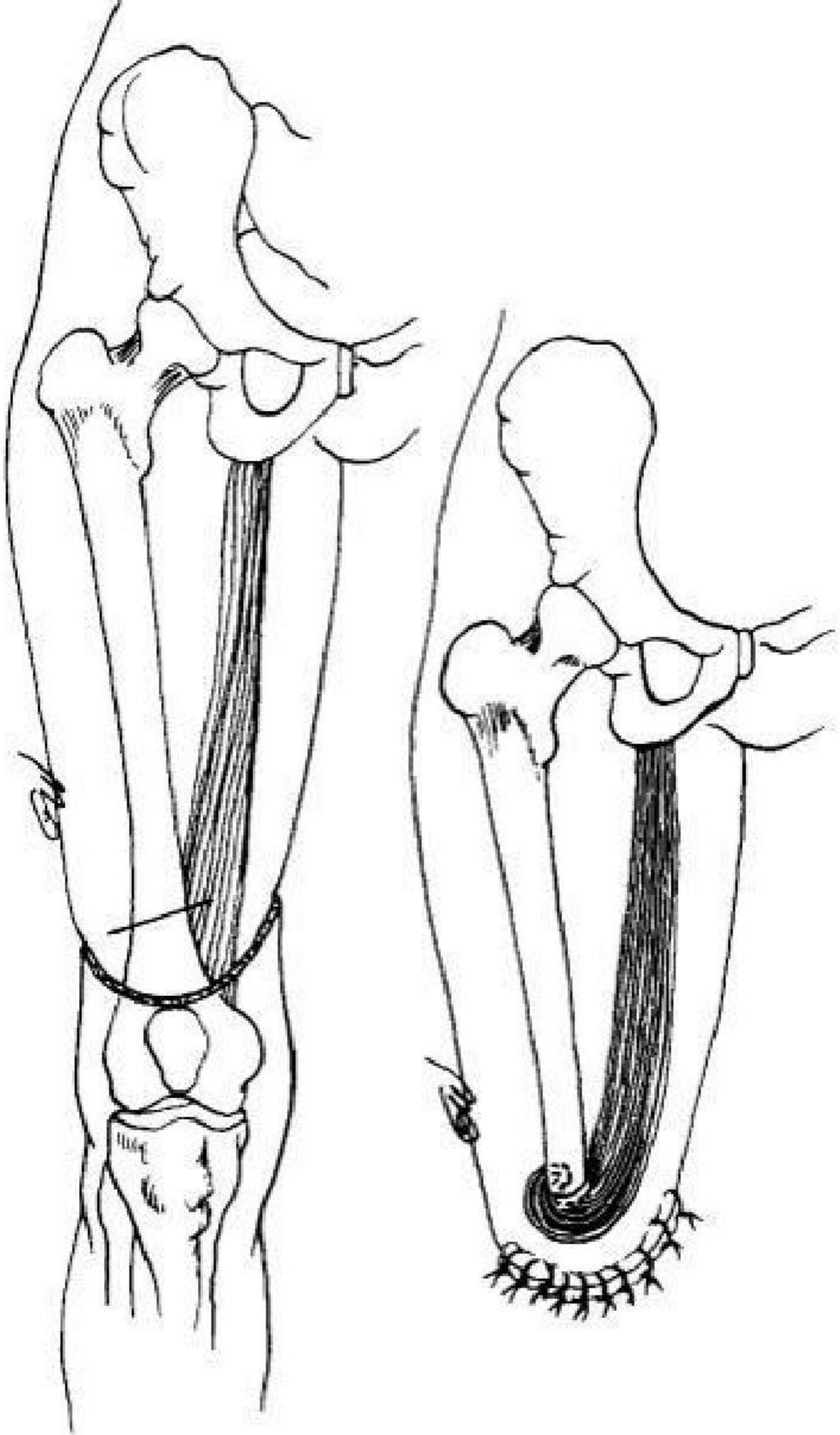
Bilateral transtibial amputations



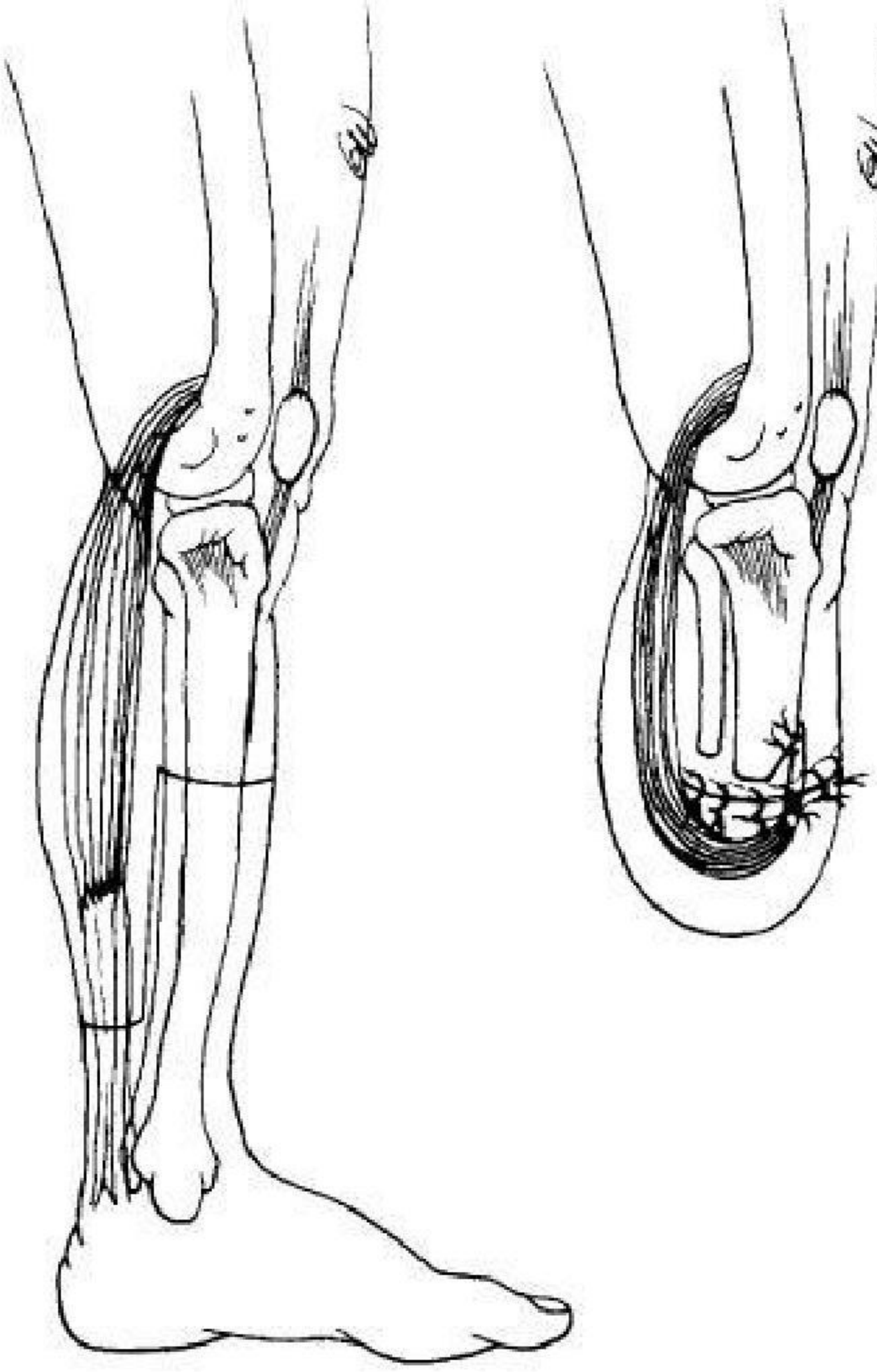
Knee disarticulation.



Syme amputation

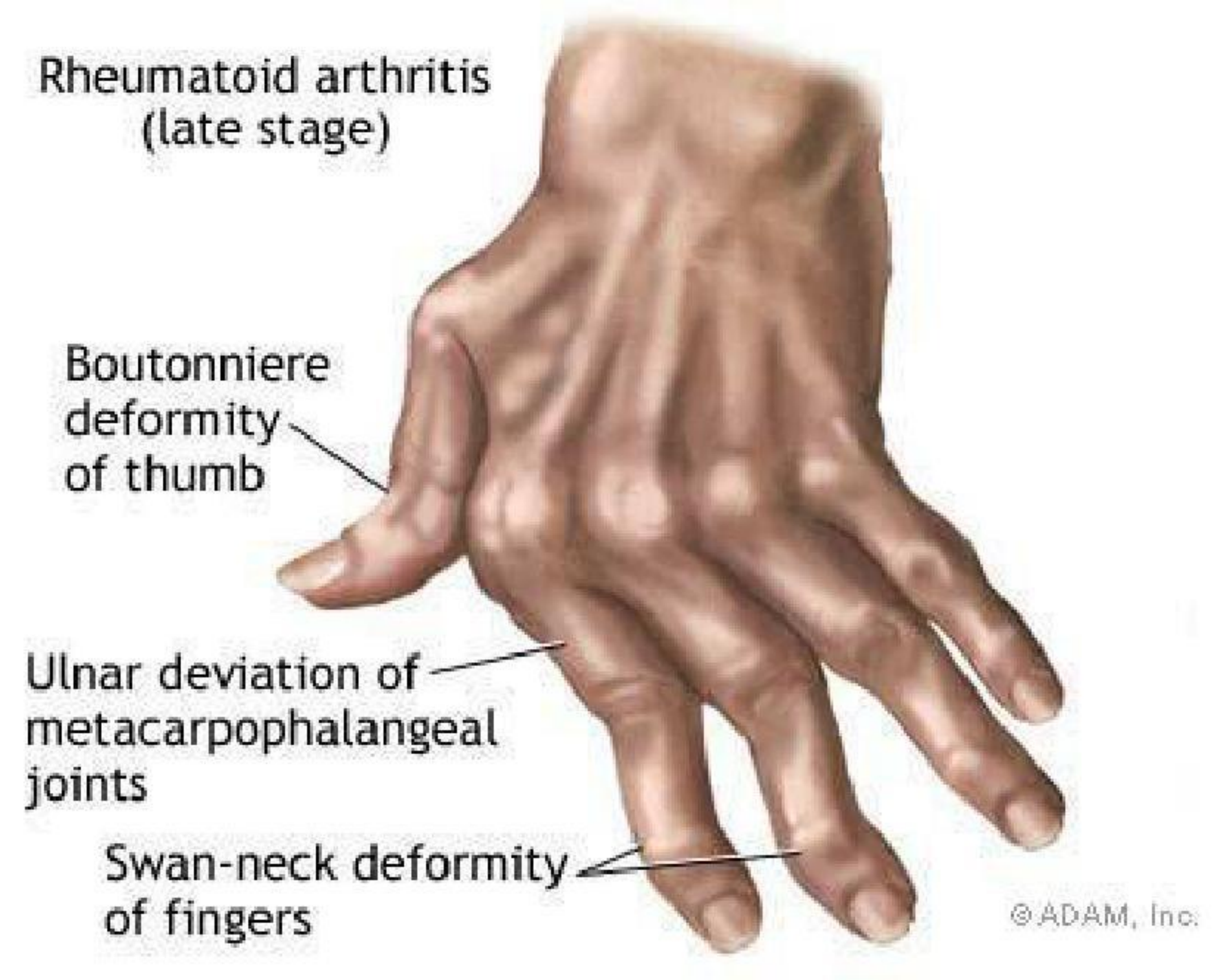


Transfemoral amputation



Transtibial amputation




Rheumatoid arthritis
(late stage)
Boutonniere
deformity
of thumb
Ulnar deviation of
metacarpophalangeal
joints
Swan-neck deformity
of fingers
©ADAM, Inc.





Symmetry of RA On Same Fingers of Left and Right Hand





© Mayo Foundation for Medical Education and Research. All rights reserved.


Medstudents - http://www.medstudents.com.br

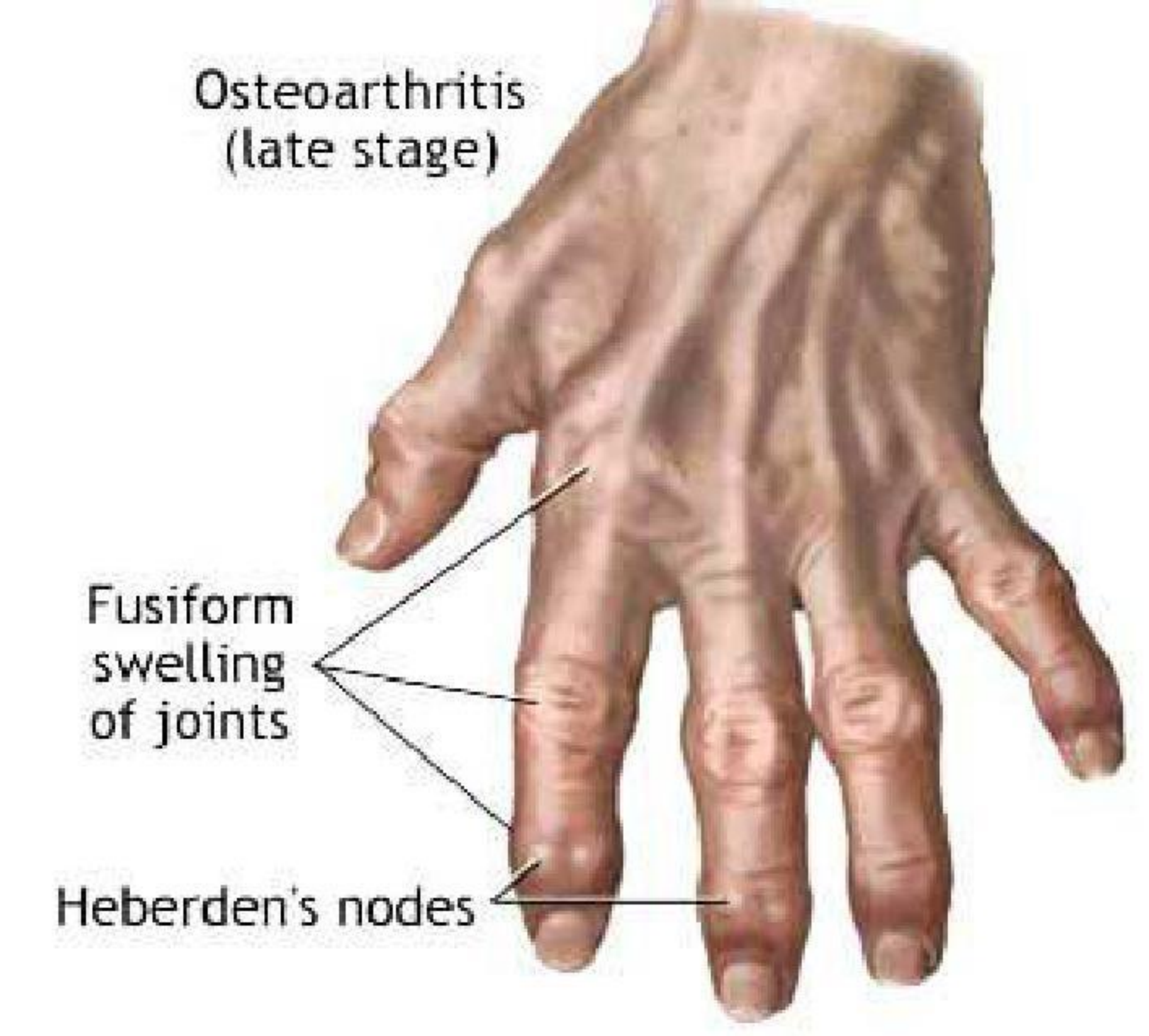


Figure 1



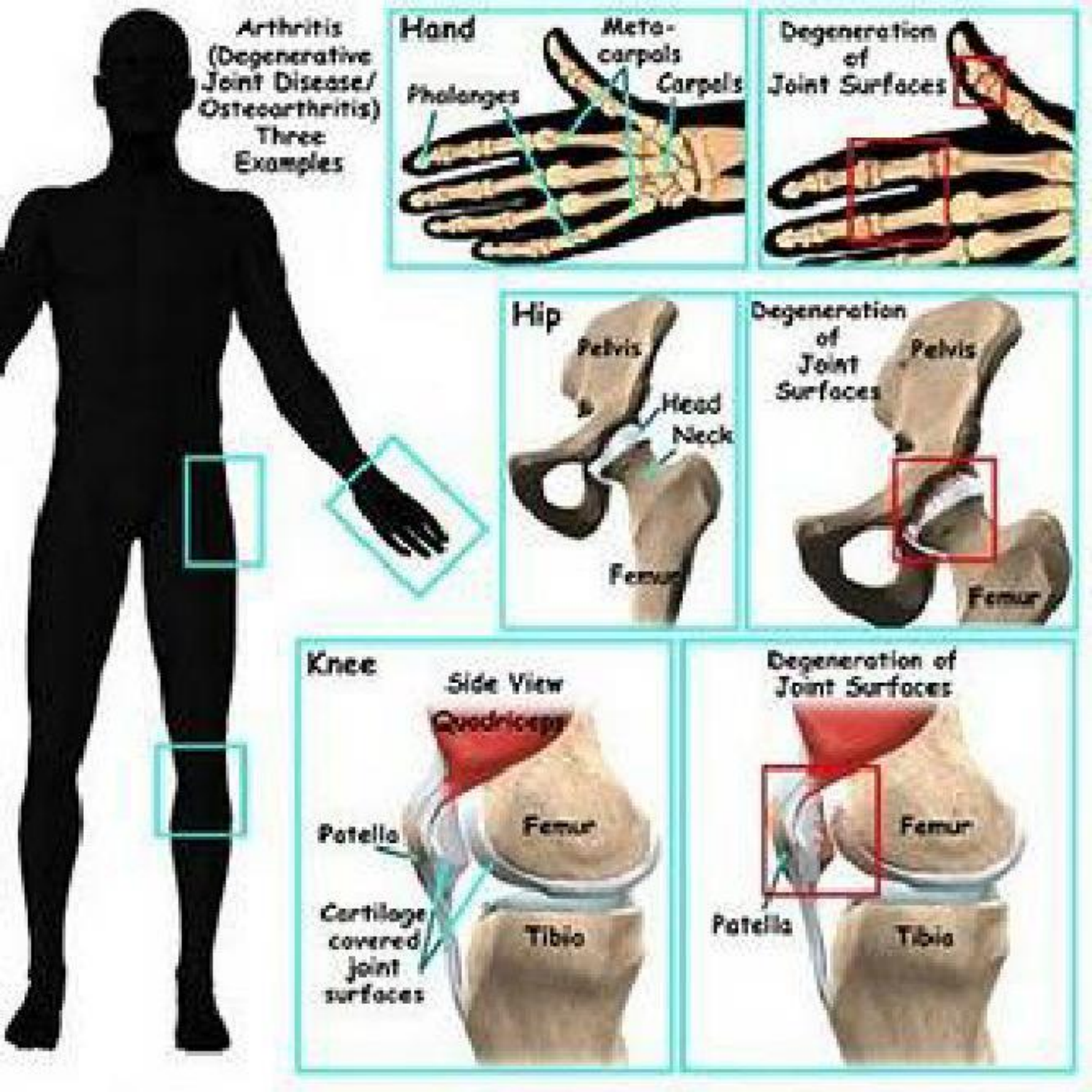
Figure 2

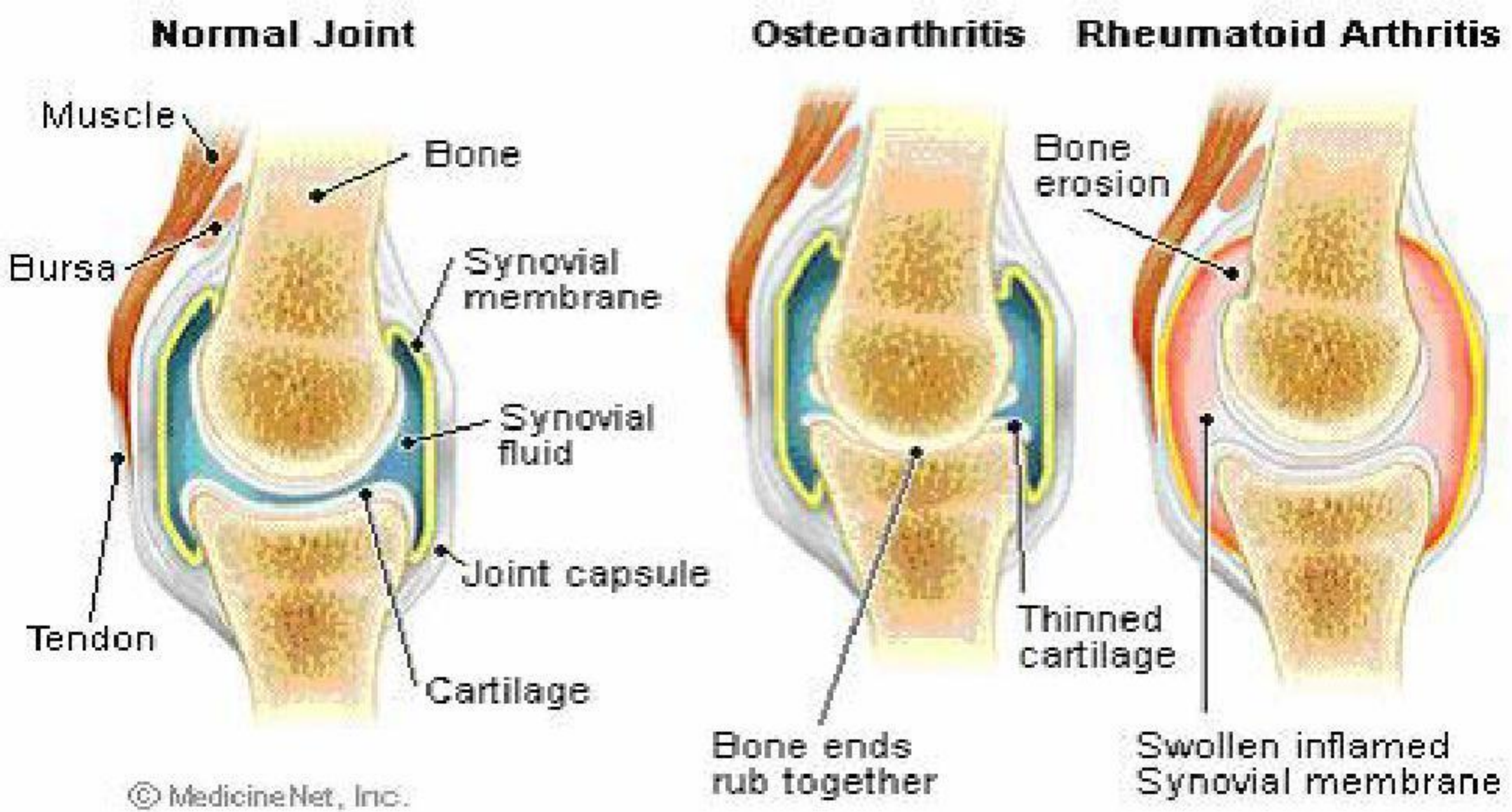



Osteoarthritis
(late stage)
Fusiform
swelling
of joints
Heberden's nodes

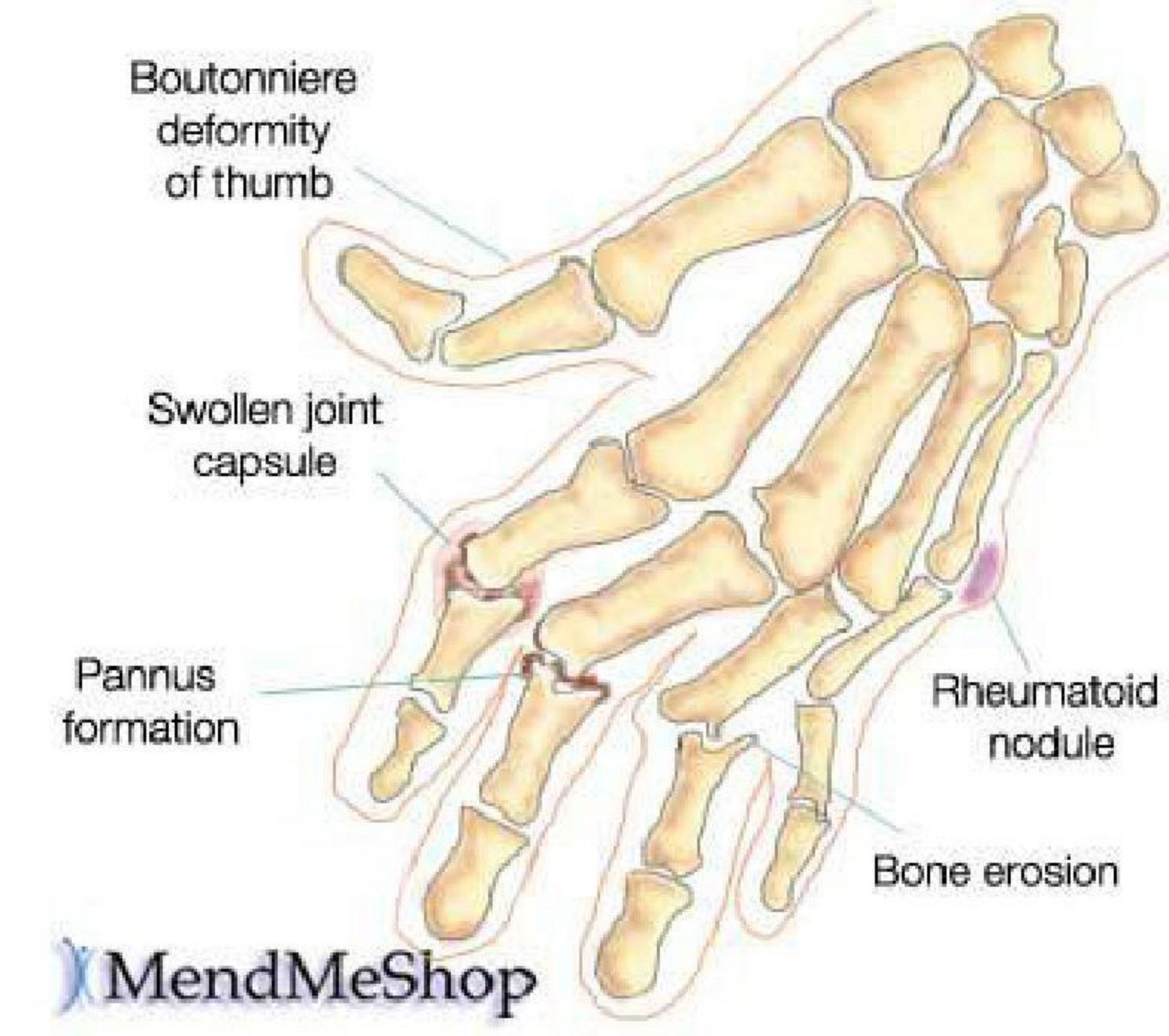




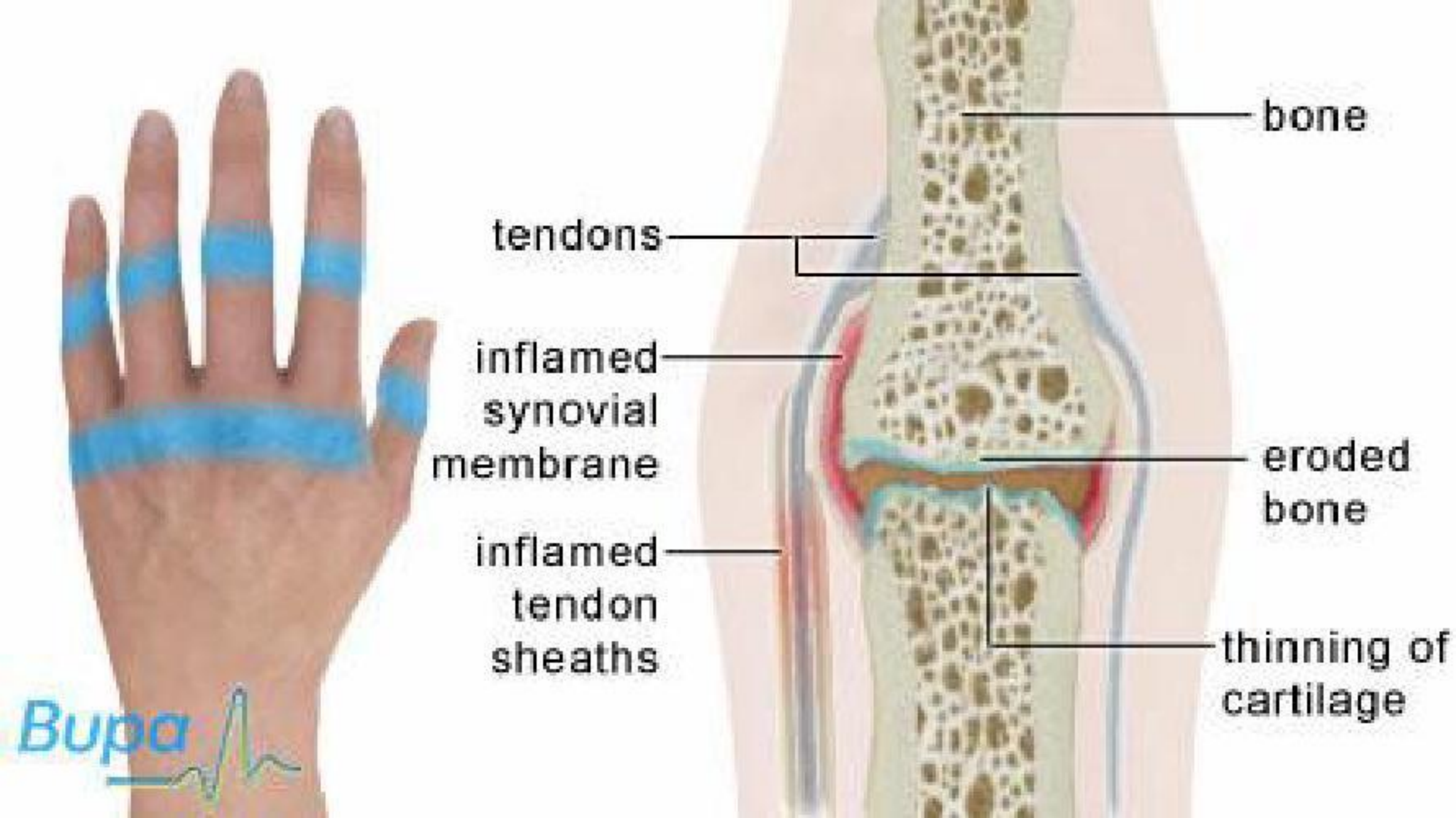

Arthritis (Degenerative Joint Disease/ Osteoarthritis) Three Examples
Hand
Meta-carpals
Carpels
Phalanges
Degeneration of Joint Surfaces
Hip
Pelvis
Head
Neck
Femur
Degeneration of Joint Surfaces
Pelvis
Femur
Knee
Side View
Quadriceps
Femur
Patella
Cartilage covered joint surfaces
Tibia
Degeneration of Joint Surfaces
Femur
Patella
Tibia

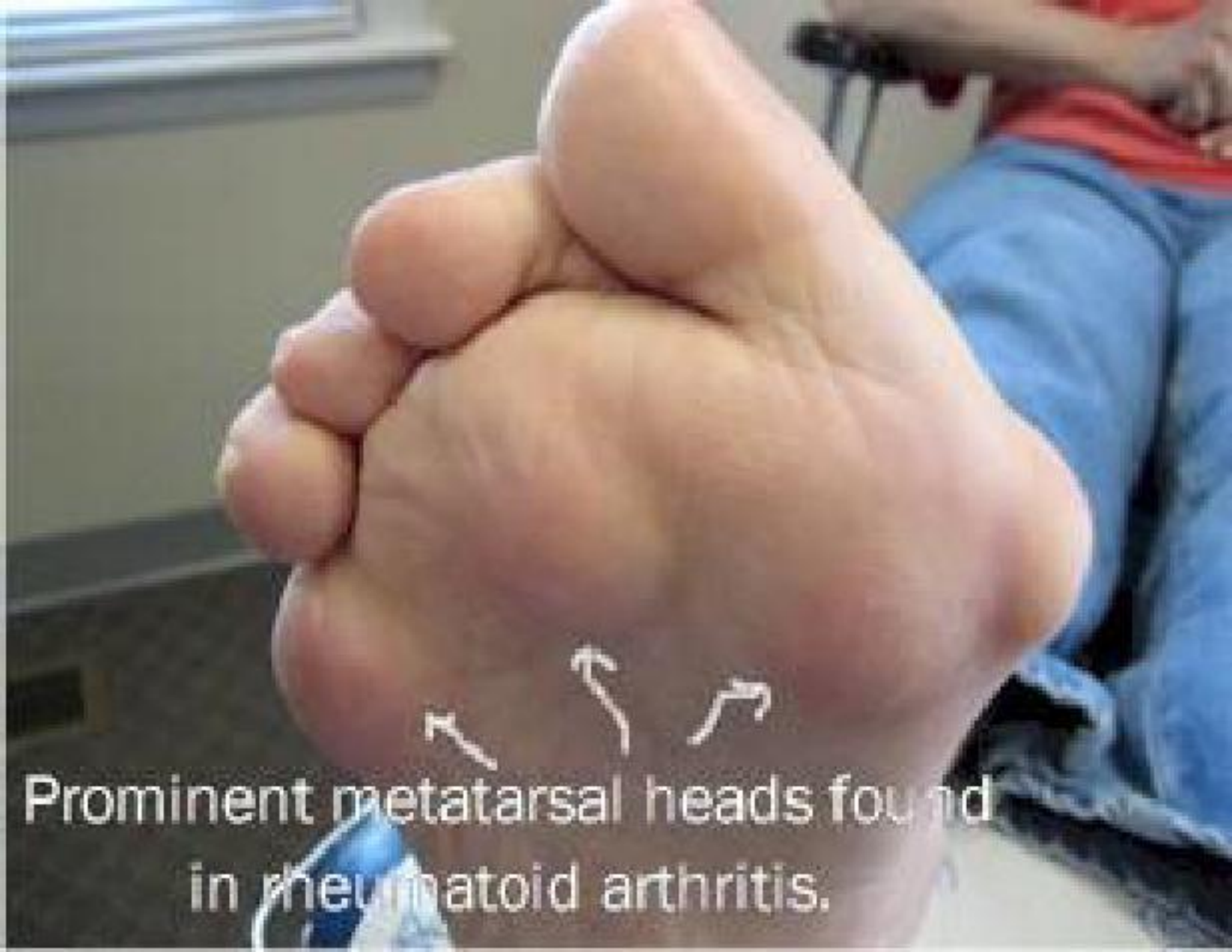


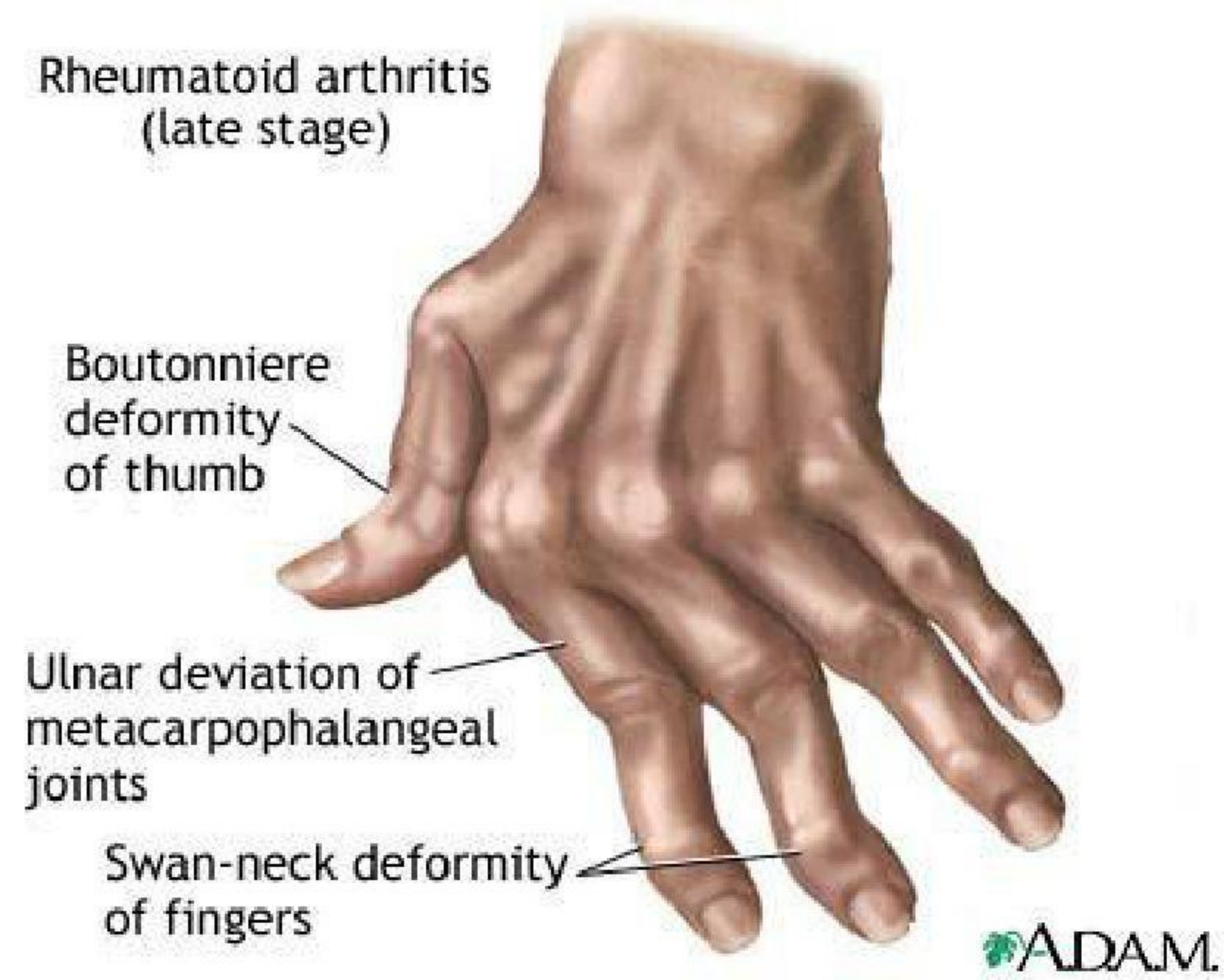
Normal and Arthritic Joints


Boutonniere deformity of thumb
Swollen joint capsule
Pannus formation
Rheumatoid nodule
Bone erosion

MendMeShop


bone
tendons
inflamed synovial membrane
eroded bone
inflamed tendon sheaths
thinning of cartilage
Bupa


Prominent metatarsal heads found
in rheumatoid arthritis.


Rheumatoid arthritis
(late stage)
Boutonniere
deformity
of thumb
Ulnar deviation of
metacarpophalangeal
joints
Swan-neck deformity
of fingers
A.D.A.M.

For All These Conditions . . .	The Helpful Hand	Traditional Brace
Arthritis	- Supports & Immobilizes Hand / Wrist / Thumb - Improves Function of Hand / Wrist / Thumb - Reduces Fatigue in Hand / Wrist / Thumb - Minimizes Pain - Increases Personal Independence - Accelerates Healing	- Supports and Immobilizes Hand / Wrist / Thumb
Carpal Tunnel		
Hand / Wrist / Thumb Injuries		
Multiple Sclerosis		
Repetitive Strain Injury		
Sports Injuries		
Stroke		
All Other Conditions Affecting Hand / Wrist		

